



UNIVERSIDADE D
COIMBRA

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THE IMPACT OF DYNAMIC CAPABILITIES ON
COMPETITIVENESS OF SME'S IN THE PORTUGUESE
CONTEXT

O Impacto das Capacidades Dinâmicas na Competitividade das
empresas: um estudo sobre
as PME's em Portugal

Doctoral Thesis in Business Management,
supervised by Professor Arnaldo Coelho,
presented to Faculty of Economics of Coimbra University

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I dedicate this work
to my daughters, Anita and Barbara, and
to my wife, Georgina

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Thank you.

ABSTRACT

Purpose

In a current context of uncertainty and unpredictability for the future of Portuguese SMEs it is necessary to create a model capable of helping them to overcome the economic crisis. Thus, the following Thesis aims to assist SMEs, through the creation of a strategic model, based on the theory of Dynamic Capabilities, supported by the view of Teece (1991) and guided by the view of March, translated into exploration and exploitation capabilities and supported by six relevant explanatory variables that influence the company's competitiveness and performance: innovation capabilities, marketing capabilities, technological capabilities, management capabilities and strategic alliances. At the level of moderation, it presents ambidexterity and entrepreneurial orientation.

Methodology: The answers to the relationships proposed were drawn from the partial and cumulative results that were tested in the four partial and complementary models developed, corresponding to four empirical partial investigations produced. To test the proposed research hypotheses, this investigation uses a structured questionnaire to gather data from a cross-sectional sample of Portuguese SME's with 387 respondents. The initial three investigation models are tested using the data from this database. The final investigation is based on a sample of 281 SMEs to explore the effects of strategic alliances.

Findings: The results show that DC have an indirect and direct effect on performance and competitiveness, via managerial and marketing capabilities. These last capabilities act like an instrument from DC to help companies be more competitive and perform better. Marketing capabilities exert a significant influence both on competitiveness and performance while management capabilities may reinforce the effects of DC on marketing capabilities. The results show that DC have an indirect and direct effect on performance and competitiveness, via managerial and marketing capabilities, to help companies be more competitive and perform better. The mediating effects of Organizational Capabilities were used to better understand the links and the way the effects from Market Orientation and Learning Orientation are transmitted to competitiveness. The results show that Organizational Culture (market orientation and

learning orientation) have an direct effect on performance and on competitiveness, via dynamic capabilities. These last capabilities act like an instrument from organizational culture to help companies be more competitive and perform better. Ambidexterity exerts a strong and significant moderation influence both on competitiveness and performance and reinforce the effects of Market Orientation and learning orientation on managerial and marketing capabilities (iii) The mediating effects of Organizational Capabilities were used to better understand the links and the way the effects from Market Orientation and Learning Orientation are transmitted to competitiveness. The results show that Organizational Culture (market orientation and learning orientation) have an direct effect on performance and on competitiveness, via dynamic capabilities. These last capabilities act like an instrument from organizational culture to help companies be more competitive and perform better. Ambidexterity exert a strong and significant moderation influence both on competitiveness and performance and reinforce the effects of Market Orientation and learning orientation on managerial and marketing capabilities (iv) Our investigation contribute to the, unexplored, investigation of the exploration and exploitation capabilities as dynamic capabilities by the vision of March (1991) where it nevertheless, presents a direct and indirect impact on competitive advantage.

(v)The findings of our study contribute to the extant body of work on SMEs collaboration although strategic alliances on the dynamic capabilities perspective and another relationship between alliances management capabilities and organizational and the knowledge based view an in by demonstrating that the capacity of SME's units to govern exchange processes with industry partners does matter, as it increases the success of technology and knowledge transfer, transformed into export performance.

Implications/Originality: This research provides empirical evidence on the influence of dynamic capabilities (exploration and exploitation capabilities), contributing to a better understanding of the impacts of innovation capabilities, marketing capabilities, managerial capabilities, technological capabilities on competitive advantage and performance, and filling the gaps identified on past literature. Consequently, researchers conducting studies on business strategy can incorporate these conceptual approaches as key elements in strategic business planning.

Our investigation introduces a new view based on March and few researchers that defend dynamic capabilities as exploration and exploitation which is very unexplored, and which allows companies to obtain more consistent results. For example, exploitative

or incremental operational capacities, differing from radical or innovative or exploratory capacities, make it possible to know and manage more easily on the part of company managers, with results that are strategically easier to be measured and controlled.

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Limitations: As for its limitations, this investigation is based on cross-sectional data, collected in Portugal. Even if it might be a relevant field to investigate these topics, considering other latitudes would be relevant. At the same time, data has been collected from SMEs and comparing data with large national and multinational firms would make these analyses more accurate. The relationships between the variables need to be explored in further practical case studies and longitudinal investigations to improve the possibility of generalization and establish more reliable causal relationships.

Keywords: Dynamic Capabilities; Exploration and exploitation capabilities; innovation capabilities; marketing capabilities; technological capabilities; managerial capabilities; strategic alliance; knowledge sharing; entrepreneurial orientation; ambidexterity; competitive advantage and performance.

Resumo

Objectivo: Num contexto actual de incerteza e imprevisibilidade para o futuro das PME's portuguesas é necessário criar um modelo capaz de as ajudar a ultrapassar a crise económica. Assim, a Tese a seguir visa auxiliar as PME's, por meio da criação de um modelo estratégico, baseado na teoria das Capacidades Dinâmicas, apoiado na visão de Teece (1991) e norteado pela visão de March (1997), traduzido em capacidades de exploração e exploração e apoiado por cinco variáveis explicativas que influenciam a competitividade e o desempenho da empresa: capacidade de inovação, capacidade de marketing, capacidade tecnológica, capacidade de gestão e alianças estratégicas. Ao nível da moderação, a apresenta ambidestria e a orientação empreendedora.

Metodologia: As respostas às relações propostas foram extraídas dos resultados parciais e cumulativos que foram testados nos quatro modelos parciais e complementares desenvolvidos, correspondendo a quatro investigações parciais empíricas produzidas. Para testar as hipóteses de investigação propostas, esta investigação utiliza um questionário estruturado para recolher dados de uma amostra transversal de PME's portuguesas com 387 respondentes. Os três modelos de investigação iniciais são testados usando os dados deste banco de dados. A investigação final é baseada numa amostra de 281 PME's para explorar os efeitos das alianças estratégicas.

Conclusões: Os resultados mostram que a CD tem um efeito indireto e direto no desempenho e na competitividade, por meio das capacidades de gestão e de marketing. Esses últimos recursos atuam como um instrumento das DCs para ajudar as empresas a serem mais competitivas e terem melhor desempenho. As capacidades de marketing exercem uma influência significativa na competitividade e no desempenho, enquanto as capacidades de gestão podem reforçar os efeitos da CDs nas capacidades de marketing. Os resultados mostram que o CDs tem um efeito indireto e direto sobre o desempenho e a competitividade, por meio de capacidades de gestão e de marketing, para ajudar as empresas a serem mais competitivas e com melhor desempenho. Os efeitos mediadores das Capacidades Organizacionais foram usados para melhor compreender os vínculos e a forma como os efeitos da orientação para o mercado e orientação da aprendizagem para a competitividade. Os resultados mostram que a Cultura Organizacional (orientação para o mercado e orientação para aprendizagem) tem efeito direto no desempenho e na competitividade, por meio de capacidades dinâmicas. Essas últimas capacidades atuam como um instrumento da cultura organizacional para ajudar as

empresas a serem mais competitivas e com melhor desempenho. A ambidestria exerce uma influência moderada forte e significativa na competitividade e no desempenho e reforça os efeitos da Orientação para o Mercado e da orientação para a aprendizagem nas capacidades gerenciais e de marketing (iii) Os efeitos mediadores das Capacidades Organizacionais foram usados para melhor compreender as ligações e a forma como os efeitos de A Orientação para o Mercado e a Orientação para o Apoio são transmitidas para a competitividade. Os resultados mostram que a Cultura Organizacional (orientação para o mercado e orientação para aprendizagem) tem efeito indireto no desempenho e na competitividade, por meio de capacidades dinâmicas. Essas últimas capacidades atuam como um instrumento da cultura organizacional para ajudar as empresas a serem mais competitivas e com melhor desempenho. A ambidestria exerce uma influência moderadora forte e significativa na competitividade e no desempenho e reforça os efeitos da orientação para o mercado e da orientação para a aprendizagem nas capacidades de gestão e de marketing (iv) Não obstante, a nossa investigação contribui para a investigação (inexplorada) das capacidades de exploração e exploração como capacidades dinâmicas pela visão de March (1991) apresentando um impacto direto e indireto na vantagem competitiva. (v) Os resultados do nosso estudo contribuem para o corpo de trabalho existente sobre a colaboração das PMEs, embora a aliança estratégica na perspectiva das capacidades dinâmicas e outra relação entre as capacidades de gestão de alianças e a visão organizacional e baseada no conhecimento em As conclusões do nosso estudo contribuem para o corpo de trabalho existente sobre a colaboração das PME, demonstrando que as PMEs têm as capacidades em governar os processos de intercâmbio com parceiros da indústria e fazerem a diferença, pois aumenta o sucesso da transferência de tecnologia e conhecimento, transformada em desempenho exportador.

Implicações / Originalidade: Esta pesquisa fornece evidências empíricas sobre a influência das capacidades dinâmicas (capacidades de exploração e exploração), contribuindo para uma melhor compreensão dos impactos das capacidades de inovação, capacidades de marketing, capacidades de gestão, capacidades tecnológicas na vantagem competitiva e desempenho, e preenchimento das lacunas identificadas na literatura anterior. Consequentemente, os pesquisadores que conduzem estudos sobre estratégia de negócios podem incorporar essas abordagens conceituais como elementos-chave no planejamento estratégico de negócios.

A nossa investigação introduz uma nova visão a partir de March (1997) e de poucos pesquisadores que defendem capacidades dinâmicas como a exploração e exploração, ainda pouco explorada, e que permite às empresas obter resultados mais consistentes. Por exemplo, as capacidades operacionais exploratórias ou incrementais, diferindo das capacidades radicais ou inovadoras ou exploratórias, permitem conhecer e gerir mais facilmente por parte dos gestores da empresa, com resultados estrategicamente mais fáceis de medir e controlar.

As capacidades operacionais exploratórias ou incrementais, diferindo de radicais ou inovadoras ou exploratórias permitem conhecer e gerir mais facilmente por parte dos gestores da empresa, com resultados estrategicamente mais fáceis de medir e controlar.

Limitações: Quanto às suas limitações, esta investigação baseou-se em dados transversais, recolhidos em Portugal. Mesmo que seja um campo relevante para investigar esses tópicos, considerar outras latitudes seria relevante. Ao mesmo tempo, foram coletados dados de PME e a comparação de dados com grandes empresas nacionais e multinacionais tornaria essas análises mais precisas. As relações entre as variáveis precisam ser exploradas em mais estudos de casos práticos e investigações longitudinais para melhorar a possibilidade de generalização e estabelecer relações causais mais confiáveis.

Palavras-chave: Capacidades dinâmicas; Capacidades de exploração e exploração; capacidades de inovação; capacidades de marketing; capacidades tecnológicas; capacidades de gestão; aliança estratégica; partilha de conhecimento; orientação empreendedora; ambidestria; vantagem competitiva e de desempenho.

LIST OF ABBREVIATIONS

AVE	Average variance extracted
CA	Competitive Advantage
CFA	Confirmatory factor analysis

CFI	Comparative Fit Index
CMIN/DF	Minimum chi-square - χ^2 divided by degrees of freedom
CR or C.R.	Composite reliability
DC	Dynamic capabilities
DCV	Dynamic capabilities View
DMC	Dynamic Marketing Capabilities
EO	Entrepreneurial Orientation
IC	Innovation Capability
LO	Learning Orientation
MO	Market Orientation
P	p -value
OA	Organizational Acquisition
OL	Organizational Learning
RBV	Resource based View
RMSEA	Root Mean Square Error of approximation
RPA	Reduced personal Accomplishment
SEM	Structural Equation Modelling
SD	Standard deviation
SME's	Small and Medium enterprises
SMC	Square multiple correlations
SEM	Structural equation modelling
TLI	Tucker Lewis Index

INDEX

ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
LIST OF ABBREVIATIONS	ix
INDEX.....	xi
FIGURE LIST	xix
TABLE LIST	xix
CHAPTER I - INTRODUCTION.....	1
1.1 Literature gaps	4
1.2 Research Context.....	5
1.3 Objectives	8
1.4 Structure of the thesis	9
CHAPTER II -LITERATURE REVIEW	11
2. Introduction	11
2.1 What are Dynamic Capabilities? Origins and definitions	11
2.2 Hierarchical approaches to dynamic capabilities	15
2.3 From Resource based View to Dynamic Capabilities.....	17
2.4 The exploitation and exploration capabilities as dynamic capabilities	26
Exploitation	32
Exploration	33
2.4.1 The antecedents of exploitation and exploration capabilities.....	35
2.4.2 The Resource-Based View and the antecedents of Exploitation.....	36
2.4.3 Dynamic Capabilities and antecedents of Exploration.....	36
2.5 Ambidexterity.....	37
2.5.1 The origins and the development of ambidexterity	39
2.6 Dynamic Capabilities and Strategic Orientation	40
2.7 Dynamic Capabilities and Organizational Culture.....	42

2.8 Dynamic Capabilities and Competitive Advantage and Performance	50
2.9 Dynamic Capabilities and Strategic Alliances	51
CHAPTER III - METHOD	100
3.1 Introduction	100
3.2 The research instrument, sample and data collection and measures	100
3.2.1. The research instruments	100
3.2.2 Samples and Data Collection.....	101
3.2.3 Sample description	101
3.2.4 The global conceptual model and research objectives	106
3.3 Measures	107
Measurement Scales	107
3.4 Statistical Approach.....	120
3.4.1 Common Method Variance	120
3.4.2 Structural equation modelling	122
3.4.3 Specification, identification and estimation of the conceptual model.....	123
3.4.4 Construct validity and reliability	124
References	129
CHAPTER IV – THE INVESTIGATION STRATEGY	131
INVESTIGATION 1	133
Purpose	133
The main Results	133
Contributions	134
INVESTIGATION 2	135
Purpose	135
The main Results	135
Contributions	136
INVESTIGATION 3	136
Purpose	136

The main Results	137
Contributions	138
INVESTIGATION 4	138
Purpose	138
The main Results	139
Contributions	139
INVESTIGATION 5	140
Purpose	140
The main Results	141
Contributions	142
CHAPTER V - STUDIES	142
INVESTIGATION 1	142
Abstract:	143
1. Introduction	144
2. Background and Research Hypotheses.....	145
2.1 Focus of dynamic capability.....	145
2.2 The Role of Marketing and Managerial Capabilities	148
2.2.1 The Impact of Exploration and Exploitation Capabilities on Managerial Capabilities.....	148
2.2.2 The Impact of Exploration and Exploitation Capabilities on Marketing Capabilities.....	148
2.2.3 The Impact of Managerial Capabilities on Marketing Capabilities	150
2.2.4 Marketing Capabilities and their Impacts on Competitive Advantage.....	150
2.2.5 Marketing Capabilities and their Impacts on Performance	151
2.2.6 The Impact of Competitive Advantage on Performance.....	152
3. The Moderating role of the Entrepreneurial Orientation (EO).....	152
3.1 What is EO?.....	152
3.2 The Moderating Role of the EO on Managerial Capabilities.....	153

3.3 The Moderating Role of the EO on Exploration and Exploitation Capabilities...	153
3.4 The Moderating Role of the EO on Marketing Capabilities	154
3.5 The Moderating Role of the EO on Competitive Advantage and Performance...	154
4. Method.....	155
4.1 Sample and data collection	155
4.2 Measures	156
4.3 The Model	158
4.4 Common Method Bias.....	159
5. Findings and Discussion.....	159
6. Conclusions, Limitations and Future Investigation.....	163
References	165
INVESTIGATION 2	174
Abstract:	174
1. Introduction	175
2. Literature review and Research Hypotheses	178
2.1 Market Orientation and Learning Orientation.....	179
2.2 Managerial Capabilities and Marketing Capabilities	181
2.3 Competitive Advantage	182
2.4 Market Orientation and Marketing Capabilities.....	183
2.5 Market Orientation and Managerial Capabilities	183
2.6 Learning Orientation and Capabilities	183
2.7 Learning Orientation and Marketing Capabilities	184
2.8 Marketing Capabilities and Competitive Advantage.....	184
2.9 Managerial Capabilities and Competitive Advantage	185
3. The moderation of Ambidexterity	185
4. Method.....	186

4.1 Sample and Data Collection	186
4.2 Measurement scales	187
4.3 The Model.....	191
5. Findings and Discussion	193
6. Limitations and Future Investigation.....	197
References	197
INVESTIGATION 3	207
Abstract:	207
1. Introduction	208
2. Background and Research Hypotheses.....	211
2.1 Dynamic Capabilities	211
2.1.1 Dynamic Capabilities	211
2.1.2 The nature, origins and evolution of dynamic capabilities.....	212
2.1.3 Dynamic Capabilities and Competitive Advantage	213
2.1.4 The Exploitation and Exploration Capabilities Perspective.....	214
3. The Mediating Role of Creativity and Innovation Capability.....	218
3.1 Innovativeness, Innovation and Innovation capability.....	218
3.2 The Impact of Exploitation and Exploration Capabilities on Innovation Capabilities	219
3.3 Creativity	221
3.3.1 Concept and importance of Creativity and Creative Culture	221
3.3.2 The Impact of Exploitation and Exploration Capabilities on Creativity	222
3.3.3 The Impact of Creativity on Innovation Capability	224
3.3.4 The Impact of Innovation Capabilities on Competitive Advantage and Performance.....	226
3.4 The moderating role of Entrepreneurial Orientation.....	228
3.4.1 What is Entrepreneurial Orientation?.....	228
3.4.2 The moderating role of Entrepreneurial Orientation on Innovation Capabilities and Creativity	229

3.4.3 The moderating role of Entrepreneurial Orientation on the impacts of Exploration and Exploitation capabilities	230
4. Method.....	231
4.1 Sample and Data Collection	231
4.2 Measures	232
4.2.1 Creativity	232
4.2.2 Innovation Capability	232
4.2.3 Dynamic Capabilities – exploration and exploitation	232
4.2.4 Competitive Advantage	233
4.2.5 Performance.....	233
4.3 The Model	233
4.4 Common Method Bias.....	235
4.5 Findings	235
5. Dynamic Capabilities and Creativity.....	237
6. Creativity and Innovation Capability	239
7. Innovation capability, competitive advantage and Performance.....	241
8. Discussion and Implications.....	242
9. Theoretical implications	243
10. Managerial implications	244
11. Limitations and Directions for Future Research.....	245
12. Conclusions	246
References	247
INVESTIGATION 4	268
Abstract.....	268
1. Introduction	269
2.Theory and hypotheses	273
2.1 Strategic Alliances.....	274
2.2 Dynamic Exploration and Exploitation Capabilities	276

2.3 Strategic Alliances, Dynamic Capabilities and Exploration/ Exploitation Capabilities	279
2.4 Strategic Alliances, Innovation and New Product Development	282
2.5 Dynamic Exploration and Exploitation Capabilities, Innovation and New Product Development.....	283
2.6 Innovation and New Product Development	286
3. The effect of Knowledge Sharing.....	287
4.Method.....	290
4.1 Sample	290
4.2 Measures	290
5. Results	295
6. Findings and discussion.....	296
7. Implications	300
8. Managerial implications	301
9. Limitations and Future Research.....	303
References	303
INVESTIGATION 5	328
Abstract.....	328
1. Introduction	328
2.Theoretical framework and hypothesis development.....	332
3.Methodology.....	342
Sample and data collection.....	342
4. Measurement	343
5.Results and Discussion	346
6. Theoretical Implications	350
7.Managerial implications	350
8. Limitations and future research	351

References	351
GENERAL CONCLUSIONS, CONTRIBUTIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE INVESTIGATIONS.....	358
Theoretical Contributions	360
Practical implications	363
Limitations and future research	365
APPENDIX	371
Questionnaire 1.....	371
Questionnaire 2.....	387

FIGURE LIST

Figure 1 - Dynamic capabilities hierarchy.....	17
Figure 2 - The antecedents of exploitation and exploration (Marín-Idárraga et al., 2016)	27
Figure 3 - The four-field chart of a capability-based approach to ambidexterity.....	31
Figure 4 - Exploration and exploitation in organizational Learning	35
Figure 5 - The ambidexterity process	37
Figure 6 - The relationship between organisational ambidexterity and dynamic capabilities.....	39
Figure 7 - Linking knowledge management and dynamic capabilities(Mark Easterby-Smith and Isabel M. Prietow, 2008).....	46
Figure 8 - The culture for open innovation dynamics	48
Figure 9 - The global conceptual model.....	106
Figure 10 - Conceptual model of first paper.....	133
Figure 11 - The Conceptual model of second paper.....	135
Figure 12 - Shows the conceptual model of this research	137
Figure 13 - The Conceptual Model of the fourth paper.....	139
Figure 14 - The Conceptual Model of the fifth paper.....	141
Figure 15 - Show the conceptual model of this research.....	231
Figure 16 - The Conceptual Model.....	289

TABLE LIST

Table 1 – Types of Dynamic Capability’s definitions.....	14
Table 2 – Types of Dynamic Capabilities in the literature	20
Table 3 - Construct-linked theories and relevant literature	21

Table 4 - The sample characterization is presented on.....	102
Table 5 - The second Sample characterization	103
Table 6 – The Scales	108
Table 7 – Descriptive analysis	126

CHAPTER I - INTRODUCTION

The dynamic capabilities approach analyses the sources of wealth creation and captures the factors that generate sustained competitive advantages in firms (Teece, Pisano, & Shuen, 1997). For more than 20 years, this has been a fundamental question in the field of strategic management. During this period, the empirical development of DC studies was related to several other concepts in the strategy area, to understand how and why some companies develop competitive advantages (Pezeshkan, et al., 2016; Schilke, 2014; Stadler, Helfat, & Verona, 2013; Teece, 2007). These relationships sought to explain the successes and failures of firms as seen through the lens of DC. Thus, a knowledge base was constructed in the strategy studies field relationships to better understand organizational performance (Teece, 2014). Despite the rapid growth of the literature on DC during this period, empirical evidence regarding remains unclear (Pezeshkan et al., 2016; Schilke, 2014). There is divergence and ambiguity in the empirical literature about which are the antecedent factors and the consequences of the DC, as well as in the form and sign of detected relations (e.g., Kor & Mahoney, 2005; Menguc & Auh, 2006; Wu, 2010; Drnevich & Kriauciunas, 2011; Lee, Naylor, & Chen, 2011; Cheng & Chen, 2013; Arend, 2014; Li & Liu, 2014). Some recent studies have been conducted to promote more in depth understanding about the DC construct (e.g. Fainshmidt, et al., 2016; Fallon-Byrne & Harney, 2017; Karna, Richter, & Riesenkampff, 2016; Kurtmollaiev, 2017; Pezeshkan et al., 2016; Schilke, Hu, & Helfat, 2018; Zou, Ertug, & George, 2018). These studies achieve a qualitative and quantitative synthesis, but they also show some limitations and fail to investigate some important areas. For example, the qualitative approaches adopted by Fallon-Byrne and Harney (2017) and Kurtmollaiev (2018) and the systematic reviews conducted by Pezeshkan et al. (2016) and Schilke et al. (2018) promoted excellent understanding of the state of the art of the DC construct and provided a guide for future agendas. However, the results found were not generalized (Roberson et al., 2017)

The dynamic capabilities approach emerged from the Resource Based View of organizations (Peteraf et al., 2013) and is mainly concerned with processes by which organizations not only change their resources and routines but their products and services to survive in changing environments (Eisenhardt & Martin, 2000; Teece et al., 1997).

They were considered to be a firm's ability to "integrate, build and reconfigure internal and external competencies to address rapidly changing environments" (Teece et al., 1997). However, the capabilities research field is still in its infancy (Di Stefano et al., 2010; Helfat and Peteraf, 2009; Li and Liu, 2014). Current studies focus on the definition, antecedents, nature, processes, and consequences of DC (Zollo & Winter, 2002; Zott, 2003; Zahra et al., 2006b; Teece, 2007; Helfat et al., 2007; Ambrosini et al., 2009; Easterby-Smith et al., 2009; Katkalo et al., 2010; Loasby, 2010), with sharp conflicts among them regarding the definitions and effects of DC and the role played by environmental dynamism. This growing research on DC provides successive and distinct definitions, which create confusion over the meaning and utility of the construct (Barreto, 2010; Di Stefano et al., 2010; Helfat & Winter, 2011; Liu & Hsu, 2011). Some scholars believe that DC are the key to competitive advantage (Ambrosini and Bowman, 2009; Helfat and Peteraf, 2009; Helfat et al., 2007; Teece, 2007; Teece et al., 1997), while others argue that DC do not manifest the characteristics of heterogeneity, cannot be a source of competitive advantage (Arendt and Bromley, 2009; Eisenhardt and Martin, 2000) and that the role of DC is limited (Zott, 2003) and indirect (Wang and Ahmed, 2007). Many researchers claim that environmental dynamism plays an important moderating role between DC and competitive advantage (Berends et al., 2010; Wu, 2010), while others believe that environmental dynamism is an important driving force of DC (Teece, 2007). Additionally, many researchers claim that environmental dynamism plays an important moderating role between DC and competitive advantage (Wu, 2010), while others believe that environment dynamism is an important driving force of DC (Teece, 2007; Jiang, et al., 2018; Efrat et al., 2018; Mikalef, & Pateli, 2017; Breznik & Lahovnik, 2016; Huynh, et al., 2018; Kuo et al., 2017; Sachitra & Chong, 2017; Fainshmidt, et al., 2019; Wamba et al., 2017; Banerjee, et al. , 2018; Trkman, 2019 ; Schilke,2014; Li & Liu, 2014; Leonidou, et al., 2015; Vanpoucke, et al., 2014; Teece, 2014; Teece, 2018; Giniuniene & Jurksiene, 2015; Zhou et al., 2019; Singh & Del Giudice 2019; Hernández-Linares et al., 2021; Garrido et al.,2020; Gyemang & Emeagwali, 2020; Khalil & Belitski, 2020; Harsch & Festing, 2020; Adeniran & Johnston, 2012; Pezeshkan, et al., 2016).

Securing sustainable competitive advantage has been a common topic of interest in the fields of both marketing and strategic management (e.g., Santos-Vijande et al. 2005 and Newbert 2007). Prior marketing literature has paid a great deal of attention to explaining the effects of firm characteristics such as market orientation (MO) and learning

orientation (LO) on firm performance and their roles in securing competitive advantage (e.g., Sinkula et al., 1997; Baker and Sinkula, 1999a; and Morgan and Turnell, 2003). Teece, Pisano and Shuen (1997) argued that DCs are predictors of competitive advantage. Later, Teece (2007) takes up this idea again, arguing that DCs are for generating competitive advantage due to rapid changes technological. The author further states that DCs are necessary in highly dynamic, generating superior performance. Also, Wu (2010) and Lin and Wu (2014) emphasize that the internal dynamism of the organization is extremely important for both creation and sustaining competitive advantage.

As a dynamic capability, alliance management capabilities can help sense, seize, and reconfigure a firm's resource base. In summary, according to different interpretations, alliance capabilities may serve companies in two ways: one that enables continuous collaboration with alliance partners, management, integration and learning from the alliance relationships for maintaining competitiveness (strategic/operational capabilities), and another in which alliance capability serves as a higher-level capability for sensing, seizing and reconfiguring resources (dynamic capabilities). In the former, alliance capability functions as a strategic or operational capability enabling exploitation, whereas in the latter, alliance capability functions as a dynamic capability with an emphasis on exploration (Kale & Singh, 2007; Wang & Rajagopalan, 2015). The ability to manage, integrate and learn from strategic alliances has long been a central topic in business marketing (Palmatier, Miao, & Fang, 2007), strategic management research (Anand & Khanna, 2000; Kale, Dyer, & Singh, 2002), entrepreneurship (Felzensztein, Stringer, Benson-Rea, & Freeman, 2015; Swan et al., 2016), and operations research (Gunasekaran, Lai, & Edwincheng, 2008; Spekman, Spear, & Kamauff, 2002). In a networked economy, it is increasingly important to have the ability to engage in collaborative value creation with regard to joint innovation, marketing alliances, customer care, or supply/value chain coordination (Lambe, Spekman, & Hunt, 2002; Möller, 2013; Niesten & Jolink, 2015; Ritter & Gemünden, 2004), namely increasing resources availability (Shakeri and Radfar, 2017) and increasing dynamic capabilities (Chen, Lee, & Lay, 2009; Holmqvist, 2004; Jiang, Bao, Xie, & Gao, 2016; Coreynen et al., 2020; Best, et al. 2021; Wu et al., 2020; Faridian & Neubaum, 2021; Jafari-Sadeghi, 2021; Arora et al., 2020; Úbeda-García et al., 2020; Muhic & Bengtsson, 2021; Randhawa et al., 2021).

1.1 Literature gaps

Much conceptual research and many empirical studies have shown that pursuing exploration and exploitation requires substantially different structures, processes, strategies, and capabilities. Moreover, the literature on performance implies that exploration and exploitation can have different impacts on a firm's adaptation and performance; this impact may be rather somewhat indirect and needs further developments (Protojerou et al., 2012). As matter as of fact, March's (1991) work and that of other literature (He and Wong, 2004, Raisch et al., 2009, Goel and Jones, 2016) have also indicated that both exploration and exploitation have a dark side in their effect on performance. Therefore, literature fails to explain how to align these DCs in a turbulent context to produce more learning and to improve managerial and marketing capabilities to enhance overall competitiveness (Khan et al., 2019; Wilden & Gudergan 2014; Ko & Liu, 2017; Liu et al., 2019; Singjai et al., 2018).

Even if branding capabilities and new product development have been recognized as crucial to improve competitiveness and performance (Krasnikov & Jayachandran, 2008; Merrilees et al., 2011; O'cass & Sok, 2012; Kamboj & Rahman, 2015; Bocken, & Geradts, 2020; Khalil, & Belitski, 2020; Gupta et al., 2020). little is known about how DC may boost these capabilities and through them, make firms more competitive and performance (Vohries et al., 2011; Wang and Sengupta, 2016; Deng et al., 2020). In extremis, several authors suggest that branding capabilities might be viewed as DCs, themselves, but conceptualization and empirical testing is yet to be performed (Brodie et al., 2017; Dangelico et al., 2017; Bocken & Geradts, 2020; Hernández-Linares, et al., Hernández-Linares et al., 2021).

Scholars have examined the exploration and/or exploitation strategies of small firms with their dominant partners in the context of alliances (Rothaermel and Deeds, 2004; Weng, C. S., Yang, W. G., & Lai, K. K. (2014). Technological position in alliances network (Coccia, 2004; Hao and Feng, 2018; Ferraris et al., 2019) and the choice of the right portfolio of strategic alliances might provide SMEs with the resources that can leverage the innovation capabilities and the development of new products (Yan & Azadeganb, 2017; Pesch et al., 2016; Silva & Moreira,2018; 2019; 2021) even if the linkages are yet to be explored. In fact, literature fails to explain how to align these strategic alliances in a turbulent context to produce more innovation and to improve new product development with dynamic capabilities for enhancing overall competitiveness (Mamédio et al., 2018;

da Silva et al., 2021). Additionally, in a meta-analysis, (Wang et al., 2019) shows the need to explore the causal mechanisms that might explain the impacts of strategic alliances on dynamic capabilities.

In fact, research like the one by Rothaermel and Deeds (2004) on the relationship between alliance management capability and the export performance of companies has so far been inconclusive. Minimal empirical consideration has been given to the potentially varying effects of different alliance management capability components, limiting understanding of their complementary and/or substitutive roles in shaping inter partner attributes and export performance outcomes in international strategic alliances (Wang & Rajagopalan, 2015). On the other hand, Ritala et al., (2015) Zhao et al. (2020) and Yao et al. (2020) proposed “knowledge disclosure,” arguing that knowledge sharing may, however, lead to the disclosure of technologies of organizations, negatively influencing their technological capabilities. According to Li et al. (2019), the choice of the alliance partners might have implications on how to achieve superior technology capabilities and performance and these relationships are yet to be researched. Alliance management is a form of dynamic capability of transforming the organization’s competences and even technology, but literature shows that it is not sufficient per se: other resource exchanges must be identified (Yang & Meyer, 2019).

1.2 Research Context

SMEs play a very important role in Europe, in particular Portuguese society, as they are providers of employment opportunities and key agents for the well-being of local and regional communities. Small business owners and entrepreneurs are pillars of society and it is necessary to support and motivate SMEs to develop in a sustainable way (Cenamor et al., 2019; Zeebaree, et al., 2017; Kiyabo, & Isaga, 2020). Most obstacles which can hinder the creation and development of businesses must be minimized, if possible, eliminated, and market dysfunctions that block SMEs must be corrected. SMEs currently face a unique challenge in their business environment. At SMEs need to successfully face the prevailing forces for change if want to survive and grow, fulfil expectations in creating investment and employment opportunities. Adapt successfully to change through technological advances, customer expectations, the regulatory environment and facing

competition requires the implementation of changes at the organizational level (Hernández-Linares, et al., 2018; 2021; Permana et al., 2017).

In this context, the current business environment is delineated by a complex, changing and highly competitive socioeconomic and institutional context, which requires organizations to adapt to the frequent challenges and make their businesses viable in the long term. The wide opening of markets to global competition also presents the growing need for companies to operate in international markets in order to maintain their competitiveness (de la Hoz Hernandez et al., 2020). A conceptual theoretical approach has been developed in the last two decades in order to understand which elements, processes and resources are necessary for companies to deal with this presented situation, which is called dynamic capabilities (Schaefer, 2020.) This approach is at the heart of explaining the sources of business competitive advantage over time, through the argument that, in order to deal with environments characterized by rapid changes, the company must have the capacity to build, integrate and reconfigure internal and external competencies. According to Levy et al., (2005), SMEs are mainly influenced by three key factors: the market, flexibility, and innovation. The competitive environment of market in which SMEs operate affects the chances of survival (Storey et al., 1995), as market uncertainty is high for most SMEs in that, generally have a small market share, having one or two large customers and consequently a low influence on price fixing, so SMEs are price-take. As much as the debate on Dynamic Capabilities (DCs) focuses differentiated in the literature (eMeirelles & Camargo, 2014), in this investigation it is seen as the internal dynamism of the organization to create and sustain competitive advantage (Helfat & Peteraf, 2009; Lin & Wu, 2014; Wu, 2010). An additional danger is that large companies will enter the market and compete in the price. In fact, there are few SMEs that compete in niche markets where there are practically no competitors, the so-called blue ocean markets (Sabir & Sabir, 2010), and only these companies have the power to influence price and quantities sold (Eniola, 2014). For most SMEs, the risk of selling to a single large customer causes difficulty as this customer fixes both price and quantity. This is particularly embarrassing and a very high risk considering that when the market goes into recession, leads SMEs to practice very low margins and SMEs have difficulties in raising sufficient funds to obtain new resources which, in turn, may increase the risk of new strategies (Love et al., 2016). Various efforts have been made in the academic literature to identify the dimension that leads a company to have specific

capabilities that are sources of competitive advantage (Calabrese, A., Costa, R., Menichini, T., Rosati, F., & Sanfelice, G. (2013). Turning corporate social responsibility-driven opportunities in competitive advantages: A two-dimensional model. *Knowledge and Process Management*, 20(1), 50-58., 2013). Competitive advantage can be understood as the occurrence levels of economic performance above the market average due to the strategies adopted by the firms (Vasconcelos & Cyrino, 2000). According to Teece, Pisano and Schuen (1997), DCs are the firm's ability to integrate, build and reconfigure internal and external competences in order to respond to rapid changes in the environment. Thus, the dynamic capacity, as well as the resource-based view (RBV), reflects the organization's ability to achieve innovative forms of competitive advantage, given the dependence on trajectories and market positions. Whereas dynamic capability literature places an important emphasis on the antecedents, components, and consequences of such organizational capabilities (e.g., Wang & Ahmed, 2007), less attention has been paid to the organizational environmental contexts that affect how organizations deploy their dynamic capabilities to improve performance. Since organizational activities take place within the organizational environments, such contexts directly moderate the effectiveness and contributions of the capabilities to organizations. Preceding studies have argued that capability exploitation and exploration can generate greater economic rents if these dynamic capabilities are better aligned with organizational environments (Luo, 2000; Teece et al., 1997).

In this context, businesses are facing environmental turbulence due to technological advances, changes in consumer demands and new regulations (Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, and Winter, 2009). The dynamism of business environments is at an accelerating rate, causing an increasing level of uncertainty to organizations. This growing uncertainty is the result of higher customer expectations, the dilution of borders between competitive environments and the move towards global competition. A firm's competitive survival in such turbulent conditions is widely considered to be a result of its ability to remain agile (Wilden, Gudergan, Nielsen, & Lings, 2013; Biesenthal et al., 2019). Previous studies in this area have mainly focused on firms operating in developed markets, and little is known about what dynamic capabilities are, or their relationship with performance in transition economies. Thus, the study uses Portugal as a testing ground for the universality of the generated theory for three reasons: Portugal's size in the global economy, because it is in a process of

internationalization, and its insertion in a European context. To address these research gaps, this study explores the definition and effects of DCs, and the specifically exploitative and the explorative vision of the firm, and the mediating role of Managerial, Marketing and Innovation capabilities and creativity and their impact on the competitive advantage and firm's performance, on innovation and new product development, with the moderation of ambidexterity and entrepreneurial orientation. Additionally, the role of alliance management capabilities is introduced to better understand how cooperative relationships with partners may boost the dynamic capabilities of the firm. As such, this research contributes to existing literature by entailing the new research context, Portugal, and clarifies the debates, to help understand the effect of DCs and the role of environmental dynamism.

1.3 Objectives

The main research question of this investigation is based on the role of dynamic capabilities and their impact on performance and competitiveness, through the effects of the managerial and marketing capabilities, innovativeness, and new product development. The proposed objectives are, therefore, to investigate how alliance management capabilities may impact on dynamic exploration and exploitation, and their impact on performance and competitiveness, through the effects of the internal capabilities such as marketing, managerial, innovation and new product development. Accordingly, 5 investigations are going to be performed to answer to these objectives:

1. What are the main research trends for competitive advantage and performance in SME's?
2. Does exploration and exploitation as an approach of dynamic capabilities contribute to the explanation of competitive advantage and performance?
3. Are the mediating variables sufficient and do they adjust to the direct and indirect effects of dynamic capabilities on competitive advantage and performance?
4. The dynamic capabilities (exploitation and exploration capabilities) directly or indirectly affect competitive advantage and performance?
5. Strategic alliances are dynamic capabilities capable of giving a better explanation and impact on competitive advantage and performance?

To test the proposed research objectives, this research uses two structured questionnaires to collect data from two cross-sectional samples from managers. 387 managers answered the first questionnaire and 281 answered a second questionnaire. Structural Equation Modelling is used to test the proposed hypotheses. This research integrates five complementary partial studies to answer the proposed objectives and hypotheses. The final results will be able to sustain the importance of using power and influence in a proper way, to create better businesses, allowing companies to align with best practices, in order to reach excellence.

According to INE data, in 2019, the Portuguese business companies was composed of 99.9% of SMEs and responsible for 60.9% of turnover, while Large companies represent 39.4%. Throughout this study we intend to answer several questions: How do the variables of innovation, technology, strategic alliances, and marketing capabilities determine the competitiveness of companies? How did these SMEs manage to overcome the crisis? How do Portuguese SMEs develop capabilities that allow them to have competitive advantages in a changing global market?

1.4 Structure of the thesis

This thesis analyzes issues about dynamic capabilities and their impact on the competitiveness of SMEs in Portugal, clarifying the relationships with several intrinsic variables at the level of competitive advantage. On the other hand, it analyzes the impact of strategic alliances through exploitative and exploitative capabilities as dynamic capabilities in a context of environmental uncertainty. Given the organizational context and the state of the art, this research aims to contribute to the investigation of exploitative and exploitative dynamic capabilities in competitive advantage, in the context of SMEs in Portugal.

This Thesis is entitled “The Impact of Dynamic Capabilities on the Competitiveness of Companies: a study on SMEs in Portugal” because it intends to coincide with the initial project presented to this University. However, in fact, this thesis also deals with the impacting relationship of strategic alliances and dynamic capabilities in competitiveness in Portuguese SMEs, which have a strong bias in terms of this research.

The document begins with a literature review to give an overview of research concepts. Then, it presents a methodological chapter to explain the adopted methodologies, used to

develop five partial and cumulative investigations that gave rise to five papers, presented in the following chapters:

Investigation 1: Dynamic Capabilities, Managerial and Marketing Capabilities and their Impact on the Competitive Advantage and Firm Performance

Investigation 2: The Influence of Market and Learning Orientation on Competitive Advantage, Managerial and Marketing Capabilities: the role of Ambidexterity

Investigation 3: Dynamic Capabilities, Creativity and Innovation Capability and their impact on Competitive Advantage and Firm's Performance: the moderating role of Entrepreneurial Orientation

Investigation 4: The influence of strategic alliances on innovation and new product development, through the effects of exploration and exploitation

Investigation 5: Alliance Management Capability, Knowledge Sharing and Technological Capabilities in Export Performance and the role of Ambidexterity

This thesis ends with a chapter of general conclusions, to give an overview of the research and its contributions.

As a final observation, it should be noted that the expressed literature is generically abundant on dynamic capabilities, but it is underexplored on the exploratory and exploitative approach, following March's view (199), and thus calling for a greater application of the concepts discussed, namely through the construction of bridges between academia and business. The carrying out of empirical studies that reinforce the managers contributions in adverse and uncertain situations, given the dynamism of the business environment, should take into account the dynamic capabilities to face situations of adaptation to the environment in which companies live.

This thesis analyzes issues about dynamic capabilities and their impact on the competitiveness of SMEs in Portugal, clarifying the relationships with several intrinsic variables at the level of competitive advantage. On the other hand, it analyzes the impact of strategic alliances through exploitative and exploitative capabilities as dynamic capabilities in a context of environmental uncertainty. Given the organizational context and the state of the art, this research aims to contribute to the investigation of exploitative and exploitative dynamic capabilities in competitive advantage, in the context of SMEs in Portugal.

CHAPTER II -LITERATURE REVIEW

2. Introduction

The objective of this investigation is to investigate how dynamic capabilities contribute to achieve competitiveness and performance of the Portuguese SMEs, through the mediation of management, marketing and innovation capabilities. On the other hand, based on the same research philosophy, to verify the impact of strategic alliances on dynamic explorative and exploitative capabilities. Even if we can find an abundant literature on dynamic capabilities, there is shortage of research that takes into account the view of March (1997), based on high order dynamic capabilities, that are still in their infancy of investigation. In fact, this vision is the guiding principle of our research in terms of originality. This chapter highlights the dynamic capabilities vision, from the resource-based theory, and drawing on the hierarchical dynamic capabilities approach. It presents the exploratory and exploitative dimensions of DCs, and how they combine to produce organizational ambidexterity. The integration of DCs with culture is explored and the role and the articulation with strategic alliances is introduced.

2.1 What are Dynamic Capabilities? Origins and definitions

The original definition of dynamic capabilities was first introduced by Teece et al. (1997) as “*the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments*” (p. 516). To avoid the tautology of defining capability with capability from the process perspective, Eisenhardt and Martin (2000) propose a broad definition that dynamic capabilities are a set of specific and identifiable processes such as product development, strategic decision making and alliancing.

The dynamic capabilities perspective complements a resource-based view of the firm (RBV). RBV concentrates on the firm’s resources, which may be physical (e.g., capital), human (e.g., employees’ skills), or organizational (e.g., formal and informal planning), and are valuable, rare, inimitable and non-substitutable (Barney, 1991).

The theory posits that firms can gain a sustained competitive advantage by possessing resources with the aforementioned characteristics. It has been argued that while this direct link may be established in a relatively stable environment, in a turbulent environment the sustainability of such a competitive advantage can quickly be eroded (Wade and Hulland, 2004) because RBV does not take into consideration the factors surrounding the resources. Here dynamic capabilities come into play, as they enable a firm to adjust its resources and therefore maintain its competitive advantage in a rapidly changing environment (Eisenhardt and Martin, 2000).

Similar to this conceptualization, Helfat et al. (2007) defined dynamic capability as “*the capacity of an organization to purposefully extend, create, or modify [i.e., reconfigure] its resource base*” (p. 1). Their definition emphasizes that the value of dynamic capabilities for securing a competitive advantage lies not in the capabilities themselves, but rather in the reconfiguration of resources—either the creation of new resource configurations or the enhancement of existing configurations—that they allow (Eisenhardt and Martin, 2000).

Dynamic capabilities comprise three main capabilities: sensing, seizing, and orchestrating (Teece, 2007; Martin, 2011; Day & Schoemaker, 2016; Karimi-Alagheband, & Rivard, 2020). Sensing refers to the ability to scan the environment to spot and/or shape opportunities and/or threats. Seizing is conceptualized as the ability to address those opportunities/threats. Orchestrating includes enhancing, combining, and protecting tangible and intangible assets as well as rearranging and recombining them with a view to maintaining competitiveness.

On other hand, From the routine perspective, Zollo and Winter (2002) define dynamic capabilities as a learned and stable pattern of collective activities directed to the development and adaptation of operating routines. Drawing on the entrepreneurship perspective, Zahra et al. (2006) define dynamic capabilities as the abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriately by its principal decision-maker(s).

In an effort to understand the nature of dynamic capabilities, Zollo and Winter (2002) and Winter (2003) distinguish between two types of routines: the first deals with the firm's operational activity – “*operational routines*” – and the latter involves the

modification of operating routines – “*dynamic capabilities*” –. Dynamic and operational capabilities differ in their purposes and intended outcomes (Helfat & Winter, 2011).

Operational capabilities comprise the firm’s operational functioning, being also labeled “*how we earn a living now*” capabilities (Cepeda & Vera, 2007). In contrast, Helfat and Peteraf (2003, p. 999) argue that “*dynamic capabilities do not directly affect output for the firm in which they reside, but indirectly contribute to the output of the firm through an impact in operational capabilities*”. Teece (2007) recognizes, in turn, that operational capabilities help an organization’s technical fitness by ensuring its day-to-day operational efficiency, whereas dynamic capabilities help to sustain a firm’s evolutionary fitness, thereby creating long-run competitive success.

Pavlou and El Sawy (2011) propose that dynamic capabilities might help managers to extend, modify, and reconfigure existing operational capabilities in turbulent environments. Certainly, most studies framed within the dynamic capabilities view (DCV) highlight the strong connection between this set of higher order resources and capabilities, namely dynamic capabilities, and the attainment and renewal of competitive advantages (Vivas-López, 2005).

The DC literature has its roots in the resource-based view of the firm (RBV), going all the way back to the works of Penrose (1959). However, other streams of literature have also influenced the discussion, specifically the evolutionary theory of economic change (Nelson & Winter, 1982), Schumpeter’s views on creative destruction, the behavioral aspects of the firm (Cyert & March, 1963), and Williamson’s (1975) views on markets and hierarchies (Ambrosini & Bowman, 2009; Teece, 2007).

The conceptual discussion is therefore very rich. Many authors perceive DCs as higher-order capabilities that influence the development of operational capabilities (Cepeda & Vera, 2007; Collis, 1994; Winter, 2003). They are often combinations of simpler capabilities and the routines related to them (Eisenhardt & Martin, 2000). Thus, DC is defined here as the capacity of the organization to purposefully create, extend, or modify its resource and capability bases to address changes in its environment (Eisenhardt & Martin, 2000; Helfat et al., 2007; Teece & Pisano, 1994; Winter, 2003).

Table 1 – Types of Dynamic Capability’s definitions

Reference: Madsen, E.L. (forthcoming). A dynamic capability framework – Generic types of dynamic capabilities and their relationship to entrepreneurship. In Wall, S., Zimmermann, C., Klingebiel, R. and Lange, D. (eds.) *Strategic Reconfigurations: Building Dynamic Capabilities in Rapid-Innovation-Based Industries*. Cheltenham: Edward Elgar.

Table 1 Main types of dynamic capability’s definitions

Author(s)	Definitions
1. Definitions focusing on the results of dynamic capabilities	
Collis (1994: 145, 146)	(...) organizational capabilities as the socially complex routines that determine the efficiency with which firms physically transform inputs into outputs [organizational capabilities are embedded in firm routines” (s: 145). The author defines capabilities at different levels: second and higher-level capabilities are “dynamic” capabilities. “This captures in a single definition both capabilities as a direct improvement of efficiency (...) and as the ability to conceive of new ways to create value (s: 146)
Dosi, Nelson & Winter (2000: 6)	“A successful large corporation derives competitive strength from its excellence in a small number of capabilities clusters where it can sustain a leadership position over time. This comes very close to the concept of ‘dynamic capabilities’ advanced by Teece et al. (1997)”.
Griffith & Harvey (2001: 598)	A global dynamic capability is the creation of difficult-to-imitate combinations of resources, including effective coordination of inter-organizational relationships, on a global basis that can provide a firm a competitive advantage.
Hoopes, Madsen & Walker (2003: 893)	(...) is located in those activities where key innovations improve the value or cost of a firm’s product or service. Lacking this capability, a firm cannot overcome the onslaught of subsequent start-up innovations and thereby cannot develop a V-C profile consistently superior to rivals’ profiles.
2. Definitions focusing on the presence of external conditions	
Teece & Pisano (1994: 541)	The subset of the competences/capabilities which allow the firm to create new products and processes and respond to changing market circumstances
Teece et al. (1997: 516)	The firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.
Eisenhardt & Martin (2000: 1107)	The firm’s processes that use resources - specifically the processes to integrate, reconfigure, gain and release resources - to match or even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resources configurations as market emerge, collide, split, evolve and die.
Rindova & Taylor (2002: 6)	(...) dynamic capabilities can be understood as change processes unfolding at two levels: a micro-evolution through ‘upgrading the management capabilities of the firm’ and a macro-evolution associated with developing new competencies in order to respond to changing customer demands (reconfiguring market competencies).
3. Definitions focusing on abilities or activities which make the firm dynamic	
Zollo & Winter (2002: 340)	A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness.
Winter (2003: 991)	(...) those that operate to extend, modify or create ordinary capabilities.
Zahra et al (2006: 924)	We view dynamic capabilities as the abilities to reconfigure a firm’s resources and routines in the manner envisioned and deemed appropriate by the firm’s principal decision-maker(s)

Many types of dynamics capability's definitions. (continuation)

Author	Contributors
Teece (2018)	Capability to identify clients with non-satisfied needs (with recourse to Information Technologies/IoT). Capability to leverage the opportunities generated by information technologies/IoT to improve on the dynamic capabilities present in the supply chain.
Hong et al. (2018)	Dynamic capability in the supply chain introduced into the relational framework for the business practices in effect in the management of the supply chain and performance.
Teece (2017)	DC sustained partially by routines and (organisational) processes.
Teece (2016)	Leadership abilities for management.
Barreto (2010)	Abilities or capacities but also processes or routines.
Ambrosini and Bowman (2009)	DC are a process impacting on the resources.
Deving & Gooderham (2008)	Stable routines, systems and processes that are visible, known, and normally designed to bring about new resource configurations.
Cavusgil et al. (2007)	Specific organisational processes by which managers alter their resource base.
Helfat et al. (2007)	The capacity to create, amplify or modify the resource base.
Pablo et al. (2007)	Three phases in DC development: identification, construction and management.
Rothaermel and Hess (2007)	The antecedents of innovation derive from individuals, companies and/or networks.
Teece (2007)	DC may be broken down into the capacity to leverage opportunities and to reconfigure tangible and intangible company assets.
Wang and Ahmed (2007)	Behavioural orientation of a company to integrate, reconfigure, renovate and recreate their resources and capabilities in response to changes in the surrounding environment to attain and maintain competitive advantage.
Marcus and Anderson (2006)	DC impact on the competences of companies in the supply chain.
Zahra et al. (2006)	Abilities to reconfigure the resources and routines of a company.
Song et al. (2005)	The effects of interactions between marketing and technology on performance are significant only in highly turbulent environments.
Winter (2003)	Routines that drive changes.
Bowman and Ambrosini (2003)	Capacity to renovate resources in keeping with changes in the environment.
Zollo and Winter (2002)	Collective learning, through which organisations generate and modify their operational routines to obtain higher efficiency levels. Activities ongoing in stable teams that modify the operational routines of companies.
Eisenhardt and Martin, 2000a,b	Resources utilised by companies in processes of reconfiguring, acquiring and creating competitive advantages. DC are organisational and strategic routines by which companies obtain new configurations.

2.2 Hierarchical approaches to dynamic capabilities

The theory of hierarchical dynamic capabilities is instrumental in operationalizing how this transformation takes places at the organizational level. Dynamic capabilities are built on the resource-base of the firm, that is, the valuable, rare, difficult to imitate and non-substitutable resources that confer upon the firm a competitive advantage in the market (Barney, 1991). Dynamic capabilities focus on adapting to changes in dynamic environments by making adjustments to this resource base; hence, they illustrate a dynamic, rather than static, resource- based view of the firm (Schilke et al., 2017). As opposed to the analysis of the resource-based view that studies the firm's current resources -tangible and intangible assets and the operational capabilities- (Eisenhardt and Martin, 2000), the study of dynamic capabilities focuses on how the company's resource-base is modified, encompassing changes in the organizational capabilities as a response to the perception of external changing environments (Teece, 2007). A main stream in the study of dynamic capabilities highlights how different levels of dynamic capabilities (Collis, 1994) transform and evolve towards more complex hierarchies of capabilities (Winter,

2003). Several authors have proposed different ways to classify dynamic capabilities. Zahra et al. (2006) distinguish between substantive (ordinary) capabilities, including abilities and resources that allow a company to solve a problem or to achieve an outcome, and dynamic capabilities (the ability to change and innovatively recombine substantive capabilities, thus reconfiguring a firm's resources and routines in the manner envisioned and deemed appropriate by a firm's principal decision-makers). Teece (2007) differentiates between sensing, seizing and reconfiguring dynamic capabilities based on an analysis of the nature and microfoundations of the capabilities necessary to sustain superior enterprise performance. Felin et al. (2012) identify these capabilities at three levels: individuals, processes and structure, while Ambrosini et al. (2009) examine these differences between levels of complexity and hierarchies, introducing the three levels of incremental, renewing and regenerative dynamic capabilities depending on the type of environment to which they respond. These classifications can also be studied as dynamic capability hierarchies (Winter, 2003) as they change from zero, first and second order. The zero level of dynamic capabilities comprises the ability of firms to foster individual routines, incrementing the resource base (Danneels, 2002), such as continuous improvements and incremental adjustments and improvements to these resources (Ambrosini et al., 2009). The first order of dynamic capabilities involves renewing dynamic capabilities (Ambrosini et al., 2009) with the goal of extending and modifying the resource-based advantages representing environmental shifts. The second level includes a transformation of the resource base, fostering the organization's strategic change (Helfat et al., 2007; Inigo, & Albareda, 2019).

Finally, some recent studies have been conducted to promote more in-depth understanding about the DC construct (e.g., Fainshmidt, Pezeshkan, Lance Frazier, Nair, & Markowski, 2016; Kurtmollaiev, 2017; Pezeshkan et al., 2016; Schilke, Hu, & Helfat, 2018; Zou, Ertug, & George, 2018; Braganza et al., 2017; Kuo et al., 2017; Bitencourt et al., 2020). (See Figure 1).

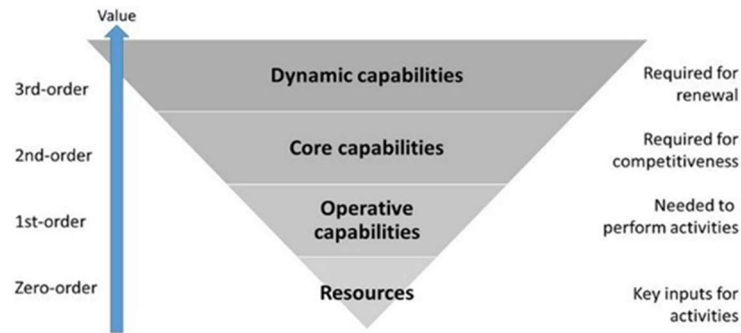


Figure 1- Dynamic capabilities hierarchy

2.3 From Resource based View to Dynamic Capabilities

The resource-based view (RBV) defines a firm as a bundle of resources and capabilities (Nath et al., 2010), which can be used to create and develop competitive advantage (Talaja, 2012; Oltra, et al., 2018; Hitt et al., 2016). Barney (2001) identified four characteristics of resources that can sustain a firm’s competitive advantage, namely, value, rarity, imperfect imitability, and imperfect substitutability.

Amit and Schoemaker (1993, p. 35) referred to resources as “*stocks of available factors that are owned or controlled by the firm*”. They comprised tangible components such as financial and physical assets, equipment, land, and buildings; and intangible components, which include human resources, client trust, firm reputation, and know-how (Nath et al., 2010; Kuo et al., 2017). The resource-based view suggests that superior organizational performance is dependent on the manner in which shipping service providers leverage their resources (Gavronski et al. (2011) viewed capabilities as the organizational ability to use current resources to perform tasks or activities. Wu (2010) stated that a firm can use its capabilities to develop its resources to create competitive advantage.

The resource-based view (RBV) proposes that competitive advantage is primarily driven by a firm's valuable, rare, inimitable, and non-substitutable resources. Although the RBV as a theoretical framework helps explain how firms achieve competitive advantage, the theory does not adequately detail how firms achieve competitive advantage in the context of fast changing environments (Eisenhardt and Martin, 2000). Because resources are context based, their values depend on the characteristics of the given environment; because resources also are relatively stickier than their environment, resource changes

and adaptations often lag behind environmental changes (Teece et al.,1997; Alonso & Kok, 2018; Duarte Alonso et al., 2018; Monteiro et al., 2017).

Moreover, in rapidly changing markets, a dominant focus on core resources may create rigidities that prevent firms from adapting their resources to the new competitive environment (Leonard-Barton, 1992). Scholars thus extend the RBV further to the dynamic capability perspective, stressing the critical role of capabilities to “*integrate, build and reconfigure internal and external competencies to address rapidly changing environments*” (Teece et al.,1997, p. 516).

From this perspective, firms must adapt, integrate, and reconfigure their resources and competencies continuously in response to changing market conditions; however, entrenched organizational processes and routines, developed from previous paths or the trajectory of resource allocation and competence development, constrain those changes or adaptations (Teece et al., 1997). More recent studies further develop and clarify the concepts of dynamic capabilities. For example, Benner (2006) proposes that responsiveness to technological changes represents an element of dynamic capabilities in SMEs setting (see also Griffith et al., 2006).

Thus, dynamic capabilities receive significant attention within the field of strategic management. Dynamic capabilities have been analyzed from various perspectives and using various approaches. Despite more than a decade of research on the concept, many critical and unresolved issues exist. A number of researchers (Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003, 2009; Peteraf et al., 2013; Ridder, 2012; Schilke, 2014; Teece et al., 1997; Teece, 2007; Winter, 2003) developed a field of dynamic capabilities representing a range of views of the concept. Researchers have variously identified dynamic capabilities as competencies (Barreto, 2010; Adner and Helfat, 2003), abilities (Martin, 2011, Barreto, 2010; Eisenhardt & Martin 2000; Helfat and Winter, 2011), capabilities (Barreto, 2010; Teece et al., 1997; Zollo and Winter, 2002), capacities (Bingham and Eisenhardt, 2008; Martin, 2011), processes (Eisenhardt and Martin, 2000) and routines (Barreto, 2010; Eisenhardt et al., 2010; Alonso, A. D., & Kok, S. 2018; Matysiak, et al., 2018; Götz, et al., 2020; Takahashi, et al., 2017; Rettig, A., & Schreyogg, G. 2020; Rono, et al., 2021). At the same time, we posit that the dynamic capabilities (DC) in combination with the RBV provides bigger and better theoretical lens to examine how firm should use dynamic managerial skills, attitudes, and competencies to enhance their performance and competitive advantage. The extant literature suggest for

rising interest amongst colleagues to use dynamic capabilities perspective towards management and development of human resources in the organizations (Helfat and Peteraf, 2015; Teece, 2014). Drawing upon the DC, we posit that to convert corporate environmental ethics into practice, firms always need key dynamic capabilities of sensing, seizing, and transforming to develop and hone employee's cognitive and affective capacities for augmenting both the environmental performance and the competitive advantage (e.g., Teece, 2007, 2014). We argue that the DC is the sum total ability of a firm to effectively integrate, build and reconfigure their competences (i.e., environmental ethics and employee's environmental skills, knowledge and attitudes) (Teece, 2007, 2014), especially when key stakeholders pushes firms to 'go green' in its processes, products and services that they offer to their customers. Therefore, the firms should sense and seize opportunities as well as challenges and transform their employees with skills and competencies through concerted environmental training to help firms effectively execute environmental ethical policy into practices (e.g., Eisenhardt and Martin, 2000; Singh et al., 2019) due to pressures from the key stakeholders. We posit environmental skills as dynamic managerial capabilities that helps people at workplace to integrate and reconfigure firm resources and competencies (Adner and Helfat, 2003) necessary to reduce negative effect of their business actions, if any, on built and physical environment. We posit that organization with environmental.

Table 2 – Types of Dynamic Capabilities in the literature

Reference: Madsen, E.L. (forthcoming). A dynamic capability framework – Generic types of dynamic capabilities and their relationship to entrepreneurship. In Wall, S., Zimmermann, C., Klingebiel, R. and Lange, D. (eds.) *Strategic Reconfigurations: Building Dynamic Capabilities in Rapid-Innovation-Based Industries*. Cheltenham: Edward Elgar.

Examples of proposed and employed types of dynamic capabilities in the literature

Generic types of dynamic capabilities	Concepts/variables	References
(1) External observation and evaluation	Ability to scan the environment to evaluate the markets and competitors	Teece et al. (1997), Zollo & Winter (2002)
	Surveillance of markets and technologies	Teece et al. (1997)
	Willingness to adopt best practice (benchmarking)	Teece et al. (1997), Eisenhardt & Martin (2000)
	External integrative capability	Kickul & Liao (2004), Madsen et al (2006),
	Idea generation capability	McKelvie & Davidsson (2006)
	Sensing and interpreting the environment	Coh et al. (2005)
	Assessment of strategic alternatives	Teece et al. (1997)
	Strategic path aligning capabilities (governance structure/board)	Borch & Madsen (2007)
	External reconfiguration and integration capability	Borch & Madsen (2007)
(2) Internal resource renewal	Internal coordination and integration	Teece et al. (1997)
	Patching (add, combine and split)	Eisenhardt & Martin (2000)
	Knowledge reconfiguration	Verona & Ravasi (2003)
	Product development routines	Eisenhardt & Martin (2000),
	New product development capability	McKelvie & Davidsson (2006)
	New process development capability	McKelvie & Davidsson (2006)
	Market disruptiveness capability	McKelvie & Davidsson (2006)
	Internal integrative capabilities	Kickul & Liao (2004)
	Innovative capabilities	Kickul & Liao (2004)
	Development of specialized offerings	Coh et al. (2005)
	Reconfiguring market competencies	Rindova & Taylor (2002)
	Market responsiveness	Griffith et al. (2006)
	Dynamic capability	Sher & Lee (2004)
	Gain and release of resources	Eisenhardt & Martin (2000)
Process R&D	Zollo & Winter (2002)	
Decentralisation and local independence (delegating)	Teece et al. (1997)	
Strategic decision-making routines (management)	Eisenhardt & Martin (2000)	
(3) External resource acquisition	Alliance and resource acquisition routines	Eisenhardt & Martin (2000)
	Reconfiguring market competencies	Rindova & Taylor (2002)
	External coordination and integration (collaboration)	Teece et al. (1997)
	Replication and brokering	Eisenhardt & Martin (2000)
	Post-acquisition integration	Zollo & Winter (2002)
	Knowledge creation and absorption	Verona & Ravasi (2003)
	Integration of external competencies	Coh et al. (2005)
	Resource acquisition capabilities	Borch & Madsen (2007)
	Learning network capabilities	Borch & Madsen (2007)
Recruitment of managers and expertise	Rindova & Taylor (2002)	
(4) Internal resource reconfiguration	Reconfiguration and transformation	Teece et al. (1997)
	Knowledge integration	Verona & Ravasi (2003)
	Knowledge creation routines	Eisenhardt & Martin (2000)
	Resource allocation routines	Eisenhardt & Martin (2000)
	Restructuring, re-engineering	Zollo & Winter (2002)
	Upgrading the management capability	Rindova & Taylor (2002)
	Learning (repetition and experimentation)	Teece et al. (1997)
	Internal resource integration capability	Madsen et. al (2006)
	Internal flexibility capability	Borch & Madsen (2007)
Contact with R&D institutions (by employees)	Eisenhardt & Martin (2000)	

Considering the theoretical background laid out above, we have outlined the link between theories and the respective constructs mentioned herein. Table 3 highlights some papers focusing on Dynamic Capabilities and other related variables, and the corresponding theoretical frameworks.

Table 3 - Construct-linked theories and relevant literature

THEORY	LINKED CONSTRUCT	REFERENCES
Dynamic Capabilities	Dynamic capabilities sensing new opportunities and threats, seizing new opportunities through business model design and strategic investments, transforming or reconfiguring existing strategic Management;	Mikalef et al. (2021)
	Organizational capabilities; Capabilities organizational and managerial processes, practice and learning; <u>Environmental dynamism</u> ; Value creation; Strategy Information decision makers Business; Innovation; Tensions; Dynamic capabilities; Networks; Value creation	Matarazzo et al., (2021) Weaven et al., (2021) Soluk et al., (2021) Heider et al., (2021) Teece (2018) Rialti et al., (2019) Best t al., (2021)
	Balancing strategy for ambidextrous learning Dynamic capabilities/exploration and exploitation capabilities	(Yuan et al., 2021)
Exploration and Exploitation Capabilities	Exploration and exploitation specifically by extending the two notions to new domains	Faroque et al.,(2021)
	Information technology influences opportunity exploration and exploitation firm's capabilities Dynamic Balancing of Exploration and Exploitation Strategic agility; Exploration and exploitation capabilities	Benitez et al., (2021) Luger et al., (2021) Clauss, et al., (2021)
	Exploration and exploitation as related to different kinds of learning; value creation/value capture / exploration/exploitation. Intrapreneurial capabilities vis-à-vis the fast pace of technological changes	Faridian and Neubaum (2021)
	Balancing strategy for ambidextrous learning, dynamic capabilities, and environmental dynamism; exploratory and exploitative learning	Yuan et al., (2021)
	Technology exploration Technology exploitation; Market expansion	Jafari-Sadeghi et al., (2021)
	Dynamic exploration Exploitation factors	Abdel-Basset et al., (2021)
Resource based view	Resource-based view Strategic human resource management; resourcebased view; employee based resources; dynamic managerial capabilities	Davis and DeWitt (2021) Collins (2021) McGahan (2021)
	Strategic human capital	Burt (2021)

	Network Capabilities, Network Theory and the Resource-Based View of the Firm Entrepreneurship; resource-based view;	Hameed (2021)
Ambidexterity	Ambidexterity Ambidexterity recognizes that exploration and exploitation form a paradoxical relationship	Claus set al., (2021) Koryak <i>et al.</i> (2021)
Market Orientation	Business model innovation Dynamic capability Market orientation SME. Alliance's market orientation Relational governance Alliance performance Social contract theory Alliance competence. Market-oriented performance. Market orientation and technology. Market orientation Learning orientation; Competence of knowledge; Innovation. Capital market distortion; market-oriented reform.	Randhawa et al., (2021) Bicen et al, (2021) Zhang et al., (2021) Renko et al., (2022) Hutahayan (2021). Han et al., (2021)
Learning Orientation	Learning/ Internationalization / entrepreneurial orientation. Competitiveness Development; Learning Orientation; Entrepreneurial Commitment; Business Performance. learning orientation; business model innovation; entrepreneurial performance. Entrepreneurial Orientation/Organizational Learning/Marketing Capability/Customer Satisfaction. Learning orientation / innovation culture/ organizational performance of SME's	Purkayastha et al., (2021) Rostini et al., (2021) Bae and Choi (2021) Peridawaty et al., (2021) Sawaeen and Ali (2021)

		Elsharnouby and Elbanna (2021)
	DMCs into human capital and the direct effect on firm performance; Dynamic marketing capabilities.	Susanto et al., (2021)
	Entrepreneurial orientation and performance of SMEs and the roles of marketing Capabilities.	
	Marketing capabilities Performance Research and development (R&D) Small and medium enterprises (SMEs) Technological capabilities.	Davcik et al., (2021)
	Strategic orientations, marketing capabilities and innovativeness.	Freitas et al., (2021)
Marketing Capabilities	Dynamic marketing capabilities as drivers of international channel integration.	Ortiz et al., (2021)
	Ambidextrous Marketing Capabilities, Exploratory and Exploitative Market-Based Innovation, and Innovation.	He et al., (2021)
	Dynamic and Adaptive Marketing Capabilities.	Reimann et al., (2021)
	International entrepreneurial culture, ambidextrous innovation, and dynamic marketing capabilities	Buccieri et al., (2021)
	Competencies; Human resource; Capabilities; Sustainability	
	Skills; Competency model; Competence; Competency; Managerial competencies.	Shet and Pereira (2021)
	Managerial resources and dynamic capabilities; SME internationalization	Jafari-Sadeghi Et al., (2021)
	Dynamic capabilities	
	International networking and vision	
Managerial Capabilities	Emerging markets.	
	Absorptive capacity, appropriation capability, and managerial capability	Bahl et al., (2021)
	Managerial (in)capabilities in micro-firms.	
	Organizational change.	Rastrollo-Horrillo, (2021).
	Developing compositional capability/ emerging-market SMEs.	Gruchmann et al., (2021)
	Managerial resources and dynamic capabilities	Sun et al., (2021) Mahdiraji et al., (2021)
		Freije et al., (2021)
	Innovation capability	Rampa and Agogué (2021)
Innovation Capabilities	Developing radical innovation capabilities: creativity and innovation.	AlMulhim (2021)
	The internal and external sources of knowledge on frugal innovation: innovation capabilities	Mendoza-Silva (2021)

	Informal networks; Innovation capability; Knowledge sharing. Open innovation Innovation performance	Chesbrough et al.,(2021) Singh et al., (2021) Cheah and Ho (2021).
	Innovation potential and organizational capabilities.	
	NPD performance; Entrepreneurial orientation	Ferreras-M'endez et al., (2021)
	Value-chains Knowledge acquisition Collaboration Transitional economies	Dung et al., (2021) Correa et al. (2021)
	Innovativeness	Covin and Wales, (2019; 2021)
Entrepreneurial Orientation	EO as an organizational based on the realization that organizations, like individuals, could “be entrepreneurial”. Big Data Analytics Capabilities, Entrepreneurial Orientation, Dynamic Capabilities View Resource-induced coping heuristics; environmental dynamism.	Ciampi et al., (2021) Adomako (2021)
	EO impact on firm performance Entrepreneurial orientation and strategic vision.	Hernandez-Perlines et al., (2021) Niemand et al., (2021)
	Emerging market internationalizing firms: Learning through internationalization	
	International Entrepreneurial Orientation	Gupta et al., (2021)
	Strategic alliances and dynamic capabilities	
	Network exploration and exploitation capabilities Networking capabilities. Organizational capability; Strategic alliances; Buyer-supplier relationships; Dynamic capabilities. Strategic alliance.	Mamédio et al., (2019) Faroque et al., (2021) Khan et al., (2021) Geleilate et al., (2021)
Strategic Alliances	Customer strategic alliance. Economic or environmental value by environmental alliances; Environmental alliances; Economic value	Brinster and Tykvova (2021) Peng et al., (2021) Jolink and Niesten. (2021) Čirjevskis, (2021).

	Enterprise social network/Knowledge contributors/Knowledge seekers//Enterprise work for knowledge sharing.	Chatterjee et al., (2021)
Knowledge Sharing	Knowledge-based HRM practices/ competitive capital/Knowledge sharing/ Innovation performance/ Resource-based theory. knowledge sharing.	
	Uncertainty/Knowledge sharing/Organizational information processing theory.	Boutom et al., 2021
	Knowledge-sharing intention/Commitment/Relationship /Reputation/ Reciprocity	Stock et al., (2021) Luo et al., (2021)
	Technological capabilities/Marketing capabilities/Performance/Research and development (R&D)/Small and medium enterprises (SMEs).	Davcik et al., (2021)
Technological Capabilities	Outbound open innovation/Technological competence leveraging/Mediated capability building.	Keinz and Marholk (2021)
	Inbound open innovation/Technological innovation/Innovation strategy	Hervas-Oliver et al., (2021)
	Competitive advantage Sustainability of competitive advantage Dynamic resources agents are a key source of competitive advantage; technological architecture	Tu and Wu (2021) Knudsen et al., (2021) Wen, Zhu and Cenamor 2019; 2021).
Competitive Advantage		
	Export performance; Small firms; Firm capabilities;	Gupta and Chauhan (2021)
Performance	Absorptive capacity; productivity; firm performance; international context	Liu et al., (2021) Manjunatha (2021)
	Internationalization and Innovation Capabilities; Export Performance.	
	Entrepreneurial Orientation, Marketing Capability, Sustainable Competitive Advantage	Bambang et al., (2021)

2.4 The exploitation and exploration capabilities as dynamic capabilities

The RBV and the DC approach are considered as models that explain exploitation and exploration (Yalcinkaya, Calantone & Griffith, 2007; Han & Celly, 2008; Lin et al., 2016; Zhan & Chen, 2013). In this study, we assume that the RBV provides the appropriate framework to identify the antecedents of exploitation, while the DC theory can be a more adequate approach to establish the antecedents of exploration. In turn, the antecedents of exploitation are regarded as first-order resources and the antecedents of exploration as second-order capabilities (Collis, 1994; Rosenkopf & Nerkar, 2001; Danneels, 2002; Sidhu, Volberda & Commandeur, 2004; Prange & Verdier, 2011). All of this is consistent with the arguments that recognize exploitation as a main firm-level internal function (already existing as the exploitation of resources) and exploration as a domain-level, fundamentally external function (what is new, such as the adaptation, integration and reconfiguration of resources) (Gibson & Birkinshaw, 2004; He & Wong, 2004; Auh & Menguc, 2005; Dutta, 2012; Marín-Idárraga et al., 2016).

This follows the concept of regenerative dynamic capabilities in the sense that they act changing or altering dynamic capability mix, "*the regenerative dynamic capability would act to change dynamic capabilities by either changing the form of the dynamic capability (e.g. from leverage to reconfiguration) or altering the mix of capabilities (adding leverage to an existing reconfiguration capability)*" (Ambrosini et al., 2009, p.9).

Ambidexterity from this perspective is not only a balance between exploitation and exploration but also the development of synergies that allow learning, leverage, integration, and reconfiguration between them. March (1991, p. 85) defines exploration as "*experimentation with new alternatives having returns that are uncertain, distant, and often negative*" and exploitation as "*the refinement and extension of existing competencies, technologies, and paradigms exhibiting returns that are positive, proximate, and predictable.*" Levinthal and March (1993, p. 105) define exploration as "*the pursuit of knowledge, of things that might come to be known,*" and exploitation as "*the use and development of things already known.*" Building on these definitions, we define "*exploration capabilities*" as the importer's ability to adopt new processes, products, and services that are unique from those used in the past and "*exploitation capabilities*" as the importer's ability to improve continuously its existing resources and processes. These conceptualizations emphasize the dynamic and distinctive aspects of exploration and exploitation. First, both exploration and exploitation capabilities are

considered dynamic capabilities, given that the role of dynamic capabilities is the transformation of existing resources into management (Eisenhardt and Martin 2000). Previous research has suggested that an importer's dynamic capabilities depend on simultaneously exploiting current technologies and resources to secure efficiency and creating variation through exploratory innovation (March 1991; Teece, Pisano, and Shuen 1997). Although exploitation capabilities arise from small changes in current technology and exhibit little deviation from the current market experiences of the importer to satisfy the needs of existing customers, the transformation of an importer's existing resources into new abilities is still taking place. In the case of exploration capabilities, the fundamental changes in the importer's current technology and market practices are more pronounced than those of exploitation capabilities. Figure 2 synthesizes the theoretical outline which is used to identify the antecedents of exploitation and exploration.

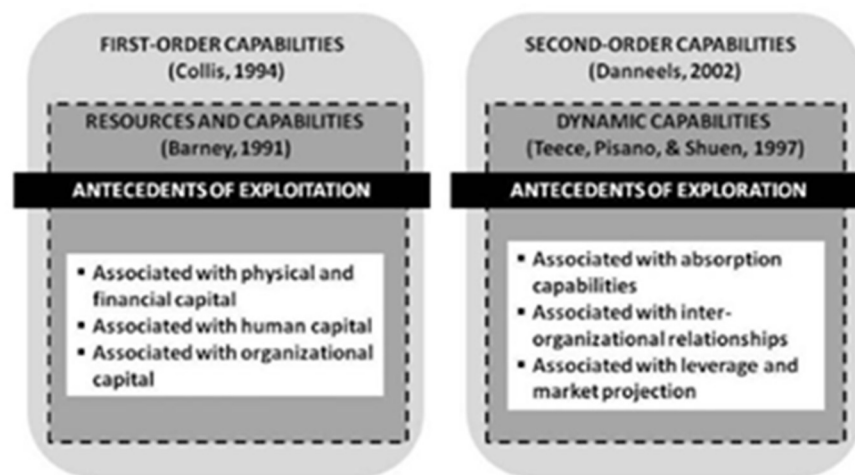


Figure 2 - The antecedents of exploitation and exploration (Marín-Idárraga et al., 2016)

From the generation of new ideas through the launch of a new product, exploration and exploitation capabilities are a central theme of product innovation (Atuahene-Gima 2005; Holmqvist 2004; Özsomer & Gençtürk 2003; Rothaermel & Deeds 2004). March (1991, p. 85) defines exploration as “*experimentation with new alternatives having returns that are uncertain, distant, and often negative*” and exploitation as “*the refinement and extension of existing competencies, technologies, and paradigms exhibiting returns that are positive, proximate, and predictable.*” Levinthal and March (1993, p. 105) define exploration as “*the pursuit of knowledge, of things that might come to be known,*” and exploitation as “*the use and development of things already known.*” Chams-Anturi et al., (2019) propose to conceptualize exploitation as an elementary dynamic capability since

it is based on existing knowledge to produce predictable results and incremental improvements of the resources base, maintaining the firm's resource base value in relatively stable contexts. This follows Eisenhardt & Martin (2000) and Ambrosini et al. (2009) idea about elementary dynamic capability, which describes capabilities that made incremental improvements, but the firm's resource base remains essentially the same. On the other hand, exploration is associated with experimentation, flexibility, divergent thinking, risk taking, variance increase, new knowledge, and new technologies uses (Lubatkin et al., 2006; March, 1991; Rivkin & Siggelkow, 2003). Exploration refers to the search for new knowledge and opportunities (March, 1991). It implies the use of tacit knowledge and it originates a complete new product or process trajectories (Nonaka, 1994), so exploration focus to respond environment changes by creating radical innovations (Tushman & O'Reilly, 2013).

Escorcia-Caballero et al. (2019) conceptualized exploration as a renewing dynamic capability since it is based on the creation of new knowledge, it produces unpredictable results, and involve high costs for its developing and maintenance. Escorcia-Caballero et al. (2019) consider exploration as a renewing dynamic capability because it creates, extend, or modifies the resource base of the organization using new knowledge to originate or adapt to the changing environment.

This follows Ambrosini et al. (2009) idea about renewing dynamic capability, which describes capabilities that made radical improvements, so the utility of firm's resource base is significantly altered. Some companies don't development this type of dynamic capability because of the associated cost, but they have the risk of not being able to renew properly its resources base (Ambrosini et al., 2009).

Focusing on the international setting, Luo (2002a) and Tallman & Fladomoe-Lindquist (2002) conceptualize dynamic capabilities as consisting of two dimensions: capability exploitation and capability upgrading. Explorative organizational learning is a key building block for new capability building while exploitative organizational learning ensures the optimal deployment of current resources and the appropriate configuration with dynamics in a competitive environment (Luo, 2000). Recently, Yudistira et al., (2022); Faridian, P. H. and Neubaum, D. O. (2021); Shamsie, Martin, and Miller (2009) and Santoro et al., (2019) approach dynamic capabilities in a framework as consisting of two complementary processes (i.e., replication and renewal) which are consistent with the exploitation-exploration dichotomy. Exploitation is a type of dynamic capability

involving path-dependent learning and knowledge accumulation. SME's tend to pursue existing market development until they accumulate sufficient capacity before extending into new markets. In addition to reducing the exploration and testing of uncertainty, it also improves the chances of survival for the company (Prange & Verdier, 2011). Slater and Narver (1995) believe that firms continue to learn; tend to track and respond to customer needs, feelings and market opportunities; and provide suitable target products, resulting in profitability, sales growth and customer retention.

The resource-based view of the firm envisions the organization as a unique bundle of accumulated tangible and intangible resource stocks (Barney 1991; Peteraf 1993). The organization can use these resources to exercise its strategic intent. Typically, resources are conceptualized as internal attributes, including tangible assets, specific internal capabilities, routines, and knowledge, that are managed by the organization (Barney 1991; Conner 1991; Constantin and Lusch 1994). However, the resource-based view of the firm suggests that a firm achieves a competitive advantage through the conversion of firm resources into capabilities (Day 1994; Teece, Pisano, and Shuen 1997). A distinction is normally made between resources and capabilities: “[R]esources are stocks of available factors that are owned or controlled by the organization, and capabilities are an organization’s capacity to deploy resources” (Amit and Schoemaker 1993, p. 35). Following Penrose (1959), we argue that the value of a resource is founded in its potential to yield competitive differentiation and/or customer value delivery. This view of capabilities has been further extended to incorporate the evolving nature of capabilities in a competitive environment under the perspective.

Dynamic capabilities refer to the development of organizational, functional, and technological skills employed to gain/ sustain competitive advantage (Eisenhardt and Martin 2000; Griffith and Harvey 2001; Song et al. 2005; Teece, Pisano, and Shuen 1997). Under the perspective, competitiveness is characterized by timely response, rapid and flexible strategies, and management capability to coordinate and redeploy internal and relational resources effectively (Eisenhardt and Martin 2000; Teece, Pisano, and Shuen 1997). Dynamic capabilities occur when management successfully adjusts the strategic combination of resources to the unique characteristics of the marketplace (Eisenhardt and Martin 2000; Grant 1996; Pisano 1994). As such, dynamic capabilities can be envisioned as the continuous modification of resource bundles, or capabilities (Eisenhardt and Martin 2000; Teece, Pisano, and Shuen 1997). March (1991, p. 85)

defines exploration as “experimentation with new alternatives having returns that are uncertain, distant, and often negative” and exploitation as “the refinement and extension of existing competencies, technologies, and paradigms exhibiting returns that are positive, proximate, and predictable.” Levinthal and March (1993, p. 105) define exploration as “the pursuit of knowledge, of things that might come to be known,” and exploitation as “the use and development of things already known.” Building on these definitions, we define “exploration capabilities” as the importer’s ability to adopt new processes, products, and services that are unique from those used in the past and “exploitation capabilities” as the importer’s ability to improve continuously its existing resources and processes. These conceptualizations emphasize the dynamic and distinctive aspects of exploration and exploitation. First, both exploration and exploitation capabilities are considered dynamic capabilities, given that the role of dynamic capabilities is the transformation of existing resources into new functional competencies that better match the environment (Eisenhardt and Martin 2000; Yalcinkaya et al., 2007).

According to Maijanen and Virta (2017), based on the preceding discussion, ambidexterity can be operationalized by means of organizational capabilities to provide a capability-based approach to ambidexterity. As Figure 3 shows, simultaneous implementation of exploitation and exploration implies simultaneous deployment of operational and dynamic capabilities. Operational capabilities execute tasks and functions mainly related to exploitation, because and as emphasized earlier, with operational capabilities, a firm exploits the existing resources for short-term success. Respectively, higher order dynamic capabilities are needed to explore new technologies and other resources for radical innovations to sustain a long-term competitive advantage in changing environments. Following Teece’s (2007) model of dynamic capabilities, the operational capabilities applied for short-term success can be operationalized accordingly. As mentioned earlier, our focus is on managerial-level sensing and seizing activities. Simultaneous exploitation and exploration require that managers are able to sense both the existing and future technologies and markets (customers). Consequently, managers have to simultaneously seize and make decisions for both short- and long-term strategic targets.

To capture the exploitative and explorative aspects of sensing and seizing activities, we will use the concepts of operational sensing and seizing capabilities (exploitation) and dynamic sensing and seizing capabilities (exploration). The four-field chart in Figure 3 illustrates ambidexterity by combining the operational and dynamic sensing and seizing

capabilities with exploitation and exploration. Field A represents the exploration-based sensing capacity, which is about proactive scanning and search for new technological and market (customer) opportunities, which are often based on the capacity to sense weak signals. Field B represents exploration-based seizing capacity, which is a critical capability for making decisions that provide long-term strategic prosperity. It mainly rests on dynamic capabilities, even if operational capabilities are needed as well. Field C represents the exploitation-based sensing capacity that mainly (but not entirely) utilizes operational capabilities thus referring to e.g. scanning and gathering information about current technologies, markets, and customers. Finally, field D signifies the exploitation-based seizing capacity (mainly operational by nature), which refers e.g. to ability to make exploitative decisions on resource allocations or incremental improvements of existing products/services that secure the continuation of the current business.

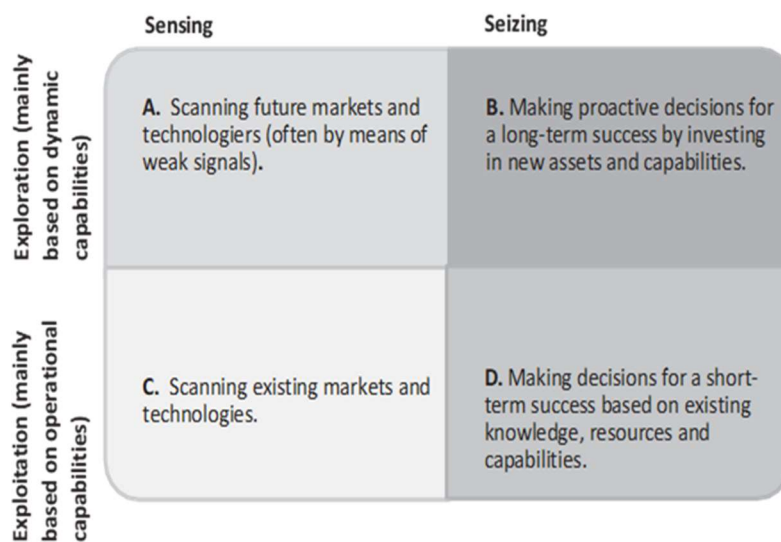


Figure 3 - The four-field chart of a capability-based approach to ambidexterity.

Finally, exploitation and exploration capabilities as originated from organizational learning literature are inherently consistent with the dynamic capabilities perspective (Yalcinkaya et al., 2007; Lipton et al., 2018; Peng, & Lin, 2019; Zhan & Chen, 2013). Finally, (See Fig., 3) when firms achieve a balance and synergies between exploitation and exploration capabilities, they develop a regenerative dynamic capability (Eisenhardt

and Martin 2000; Yalcinkaya et al., 2007; Deng et al., 2020; Bernal et al., 2019; Birkinshaw et al. 2016; Vahlne & Jonsson, 2017; Peng & Lin, 2019; Maijanen & Virta, 2017; Bustinza et al., 2020; Maijanen, & Virta, 2017; Helbin,& Van Looy, 2021; Clauss et al., 2021; He et al., 2022). Based on the preceding discussion, ambidexterity can be operationalised by means of organizational capabilities to provide a capability-based approach to ambidexterity.

Exploitation

The goal of exploitation is to refine and extend organizational skills, routines, and capabilities (Auh and Menguc, 2005). Routines are refined in light of experience and existing knowledge (Baum, & Dahlin, 2007) in order to increase efficiency, decrease variance, discipline problem-solving activities (Smith and Tushman, 2005), and eventually achieve incremental innovation (Andriopoulos and Lewis, 2009). As a result of standardizing and enhancing technologies, productivity and efficiency improve (Nielsen, 2010). In terms of organizational learning, exploitation is path dependent, since new developments evolve out of existing knowledge altered by routine-based experiential learning (Lavie et al., 2011; Nelson and Winter, 1982; Teece, 1988; Teece & Pisano 1994). The advantages secured as a result are twofold (Ahuja and Katila, 2001). First, processes and structures are improved (Warner & Wäger, 2019; March, 1991) and thus redundancies averted, as activities come to be designed to achieve more efficiently and effectively, for example, faster production or better quality (He and Wong, 2004). Second, risky experimentation is avoided, which circumvents potential business failure as existing knowledge is relied upon more heavily (Katila and Ahuja, 2002). To extend that argument to SME's, exploitation activities become reinforced when the two merging entities both prioritize the allocation of resources to exploitation, since combining existing exploitative knowledge increases efficiency and eliminates redundancies. However, such gains can be even greater when the acquirer and target fit in regard to their exploitation orientations, since, as Gupta et al. (2006, p. 696) explain, "*the learning, resources, and routines necessary for exploration and exploitation are different.*" By the same token, we argue that disruptions during post-merger integration (Dunlap et al., 2016) are greater when the orientations of the companies do not fit. In short, a fit in orientation, skills, language, and cognitive structures facilitates communication and learning (Veugelers & Cassiman (2005), as well as the merging entities assimilation and application of knowledge.

Exploration

Exploration is defined as a type of learning that evolves through “*concerted variation, planned experimentation and play*” (Baum et al., 2000, p. 768). Exploration follows a logic entirely unlike that of exploitation by encouraging experimentation with a wide range of diverse knowledge (Andriopoulos and Lewis, 2009; Solís-Molina et al., 2019; 2020). With exploration, new knowledge is generated by discovering new ways to achieve above-average returns (Koza and Lewin, 1998) despite above-average risk (Angwin, 2007). Briefly, seeking new opportunities with an eye for the future, as well as fresh knowledge and experience, is more uncertain and time-consuming than exploitation (March, 1991), yet can yield “*product improvements and innovations*” (Nielsen, 2010, p. 688). Thus, new external information is scanned and transformed for commercial purposes (Cohen and Levinthal, 1990; Lavie et al., 2011). This so-called absorptive capacity enables a firm to prematurely develop new capabilities (Lavie et al., 2011) and makes it more flexible in responding to environmental changes (Brown and Eisenhardt, 1997). This open and flexible approach of learning enables a firm to develop radical innovations (Atuahene-Gima, 2005). Along those lines, we again expect that a fit in the orientations of merging entities, one characterized by common skills, a shared language, and similar cognitive structures related to exploration, facilitates communication and learning (Cassiman et al., 2005; Hirst et al., 2018). For one, the assimilation and application of knowledge in the merging entities is made easier. Just as similar orientations reduce disruptions for employees and promote coordination (Puranam & Srikanth, 2007), similar management styles reduce employee resistance (Larsson and Finkelstein, 1999). We therefore argue that a fit in the exploration activities between a target and acquirer increases the success of exploration in terms of, for example, the similarity of routines and learning processes (Gupta et al., 2006; Bauer & Knieps, 2018); Koryak et al., 2018; Camisón et al., 2017; Marín-Idárraga, et al., 2016; Berard, & Frechet, 2020; Asif et al., 2017; Gasser & Schweigler, 2017).

Firms must choose the most suitable strategy to innovate and reach competitive advantage. According to the type of knowledge applied to the innovation, exploiting current knowledge (exploitation) and/or exploring new one (exploration) confronts the firm to a tension from a learning perspective (Ricciardi, Zardini, & Rossignoli, 2016) resulting in the need of managing the different ways of combining them. One way of combining exploitation and exploration consists of simultaneously engaging in both,

which is known as organizational ambidexterity. It is usually an alternative that is recommended to improve firm performance (O'Reilly & Tushman, 2013; Raisch & Birkinshaw, 2008).

Literature also indicates that there are trade-offs between exploitation and exploration because of the size and diversity of the resources needed to engage simultaneously in the two types of activities (March, 1991), the organizational learning routines, and the distribution of power, which tends to favor one type of innovation over the other (Levinthal & March, 1993). This makes opting in favor of a specialized innovation strategy, focusing on either exploitation or exploration, a viable innovation strategy. Thus, specialization in exploitation (or in exploration) describes the specific combination consisting on the use of one of them to the exclusion of the other in the same manner described by Gupta, Smith, and Shalley (2006) and Ferrary (2011), and similar to the terms of focus on market exploration (or exploitation) used by Voss and Voss (2013) and focused firm used by Van Looy, Martens, and Debackere (2005) and Solís-Molina and Rodríguez-Orejuela (2018) and Guisado-González et al., (2017) and Sok, P., and O'Cass, A. (2015), and Hunter, S. T., Cushenbery, L. D., and Jayne, B. (2017) and Anzenbacher, A., and Wagner, M. (2020).

Dynamic capabilities are no longer limited to ordinary organizational capabilities (Teece et al., 1997; Eisenhard & Martin, 2000) but also to those that make breakthroughs in the form of innovation (O'Reilly & Tushman, 2011). Companies that can produce a breakthrough balance of exploitative innovation and explorative innovation which is known as ambidextrous innovation will have a competitive advantage. Balancing explorative and exploitative innovation ambidextrously has been conceived as having positive performance effects (Chang & Hughes, 2012). The study of the relationship between dynamic capabilities and ambidextrous innovation is still rare and previous empirical research showed that dynamic capabilities had a significant effect on innovation capability (Ferreira et al., 2020).

In the literature, innovation ambidexterity refers to finding a balance between exploitative and explorative innovation activities so as to introduce incremental and radical innovation for a superior sustainable performance (Benner and Tushman, 2003; Gibson and Birkinshaw, 2004; He and Wong, 2004; Jansen et al., 2006). Exploitative innovations are incremental improvements to existing products serving current customers and markets, while exploratory innovations are radical changes contained in new products which are

introduced to serve new customers and markets (Benner and Tushman, 2003; He & Wong, 2004). Exploitative innovation refines products and increases efficiency, while exploratory innovation experiments with new features and is related to flexibility (Jansen et al., 2008). They both relate to new knowledge acquisition, although of different types and to different degrees (Gupta et al., 2006; Božič & Dimovski, 2019).

2.4.1 The antecedents of exploitation and exploration capabilities

The RBV and the DC approach are considered as models that explain exploitation and exploration (Yalcinkaya, Calantone & Griffith, 2007; Han & Celly, 2008; Lin et al., 2013; Zhan & Chen, 2013). In this study, we assume that the RBV provides the appropriate framework to identify the antecedents of exploitation, while the DC theory can be a more adequate approach to establish the antecedents of exploration. Exploration is about finding out what you don't know. Exploring is a deliberate attempt to gain new know-how. And only by exploring can you find new opportunities to exploit. The process of exploration involves you playing with new ideas (or old ideas in new situations). (See Figure 4)

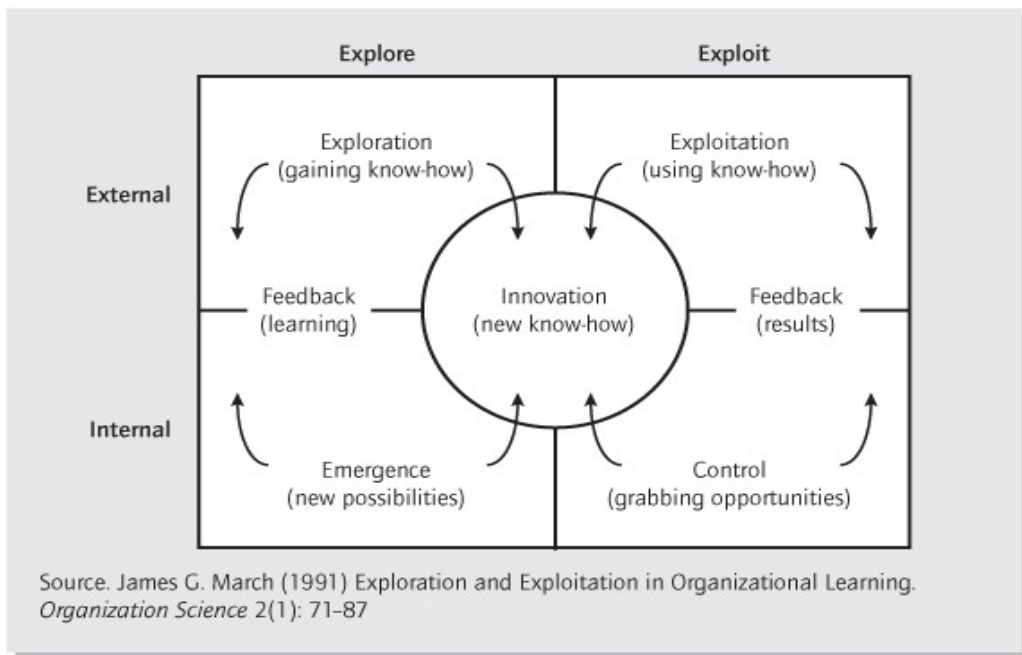


Figure 4 - Exploration and exploitation in organizational Learning

In turn, the antecedents of exploitation are regarded as first-order resources and the antecedents of exploration as second-order capabilities (Collis, 1994; Rosenkopf & Nerkar, 2001; Danneels, 2002; Sidhu, Volberda & Commandeur, 2004; Prange &

Verdier, 2011). All of this is consistent with the arguments that recognize exploitation as a main firm-level internal function (already existing as the exploitation of resources) and exploration as a domain-level, fundamentally external function (what is new, such as the adaptation, integration and reconfiguration of resources) (Gibson & Birkinshaw, 2004; He & Wong, 2004; Auh & Menguc, 2005; Dutta, 2012).

2.4.2 The Resource-Based View and the antecedents of Exploitation

The RBV, with Barney (1991) as its prime mover, establishes that firms attain a sustainable competitive advantage insofar as they develop internal resources which are valuable, rare, inimitable and irreplaceable. Different works on exploitation and exploration (Yalcinkaya, Calantone & Griffith, 2007; Lin et al., 2013; Zhan & Chen, 2013) have used the arguments provided by this view. Following Li, Vanhaverbeke and Schoenmakers (2008), exploitation is related to efforts in favor of efficiency, the rationalizing of resources and their exploitation in order to achieve substantial improvements and attain differentiating advantages in the market. In line with the RBV, the antecedents of exploitation refer to those resources and capabilities which favour the firm's internal improvement, the achievement of high levels of efficiency and the obtaining of profits in the short term (Benner & Tushman, 2003; He & Wong, 2004; Yuen, et al., 2019). These antecedents can be sense of skills to perform the firm's basic functional activities (supply, transformation, distribution) more efficiently than their competitors (Collis, 1994; Post & Leavell, 2019; Kurniawan & Christiananta, 2016). Our proposal of the antecedents of exploitation is based on the taxonomy of Barney (1991), who groups a firm's resources into three categories: physical capital, human capital and organizational capital. The exploitation-exploration literature suggests different resources as facilitators of exploitation which can clearly belong to the three categories mentioned.

2.4.3 Dynamic Capabilities and antecedents of Exploration

Compared to the somewhat static character of the RBV, the DC approach underlines a firm's dexterity to adapt its resources and capabilities to the changing nature of the market in which it acts, trying to develop higher-order capabilities and resources (Teece, Pisano & Shuen, 1997; Eisenhardt & Martin, 2000; Danneels, 2002; Teece & Pisano, 2004; Prange & Verdier, 2011; Kurniawan & Christiananta, 2016; Rhee & Kim, 2019). In accordance with Eisenhardt and Martin (2000) and Teece and Pisano (2004), achieving a competitive advantage not only requires exploiting internal resources but also the development of new capabilities from existing resources. Thus, the competitive

advantage becomes more sustainable over time, to the extent that the firm transcends the local search and reconfigures knowledge, transforming its resources into dynamic capabilities (Rosenkopf & Nerkar, 2001). In line with our literature review, the antecedents of exploration are classified into three groups: those related to the capability of knowledge absorption (Holmqvist, 2003, 2004), those connected with the skill to develop inter-organizational relationships (Koza & Lewin, 1998), and those which facilitate financial leverage and market projection (Sidhu, Volberda & Commandeur, 2004; Auh & Menguc, 2005; Marín-Idárraga et al., 2016; Mudalige et al. 2019).

2.5 Ambidexterity

The need for distinct organizational structures, cultures and goals has resulted in traditional management theories focusing on either exploitation or exploration to develop organizational strategy (Denison, Hooijberg, & Quin, 1995; Ghemawat, Ricart, & Joan, 1993). Strategy studies propose the use of ambidexterity that considers exploitation and exploration as two distinct but complementary perspectives (Benner & Tushman, 2003; Gupta, Smith, & Shalley, 2006; He & Wong, 2004; March, 1991), (See Figure 5).

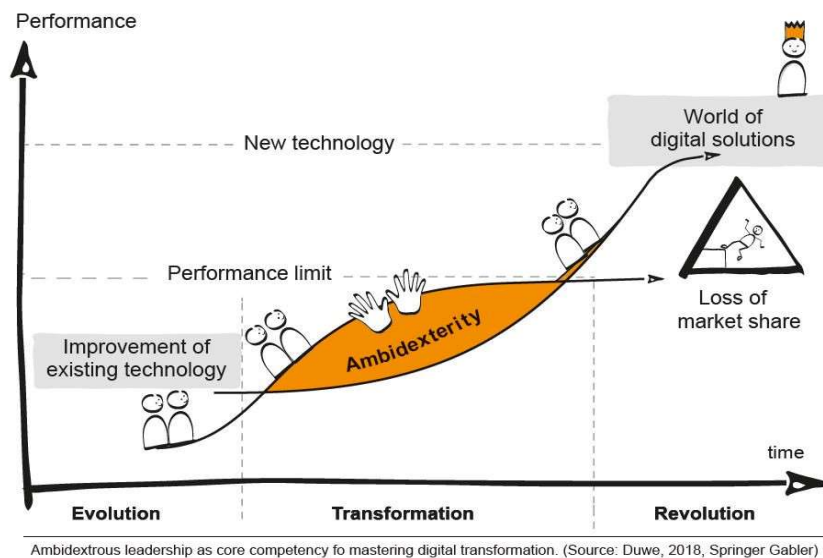


Figure 5 - The ambidexterity process

According to this reasoning, firms that overemphasize exploitation reduce learning of new capabilities and may result in organizational myopia (Radner, 1975), causing the firms' core capabilities to become "core rigidities" (Leonard-Barton, 1992) or

“competency traps” (Levitt & March, 1988). To remedy this disadvantage and complement the deficiencies of existing capabilities, Rosenkopf and Nerkar (2001) suggest that firms should go beyond “local search” to engage in high degrees of exploration.

However, firms that overemphasize exploration can reduce the speed at which existing capabilities are improved and refined (March, 1991). Moreover, exploration in a new field is risky and prone to failure.

According to the ambidexterity perspective, exploitation and exploration are by no means independent of each other. Companies should therefore engage in exploitation to ensure the organization’s current viability and simultaneously devote energy to exploration to ensure the firm’s future viability (Levinthal & March, 1993; March, 1991). To facilitate ambidexterity, organizational structures should be adjusted in such a way as to cultivate an optimum balance between these two activities (Ancona, Goodman, Lawrence, & Tushman, 2001; Floyd & Lane, 2000).

Such ambidextrous implications are in fact implicit in extant strategy and organization literatures. For example, Eisenhardt and Martin (2000) suggest that the cultivation of a firm’s dynamic capabilities requires an effective blend of exploitation and exploration. In addition, Burgelman (2002) identifies two internal strategic decision types (i.e., a variation-reducing induced process and a variation-increasing autonomous process) and suggests that most companies actually rely on both these processes simultaneously to cope with the multi-dimensional challenges in their decision-making. Similarly, organization literature proposes that firms should elaborate an ambidextrous structure to pursue two disparate organizational goals at the same time (Duncan, 1976; Tushman & O’Reilly, 1996), such as exploiting the firm’s current capabilities, while exploring fundamentally new capabilities (Gibson & Birkinshaw, 2004). These arguments support the implications of the ambidexterity perspective in a wide range of corporate management issues and suggest that the approach of sustaining and defending the efficiency of ambidexterity can be relevant for a firm’s long-term value (Ancona et al., 2001; Floyd & Lane, 2000). In turn, organizational ambidexterity is directed at exploratory processes, including the search for new knowledge and competencies, launching new markets, and creating new products; and exploitative processes, including the use of existing recourses, knowledge, and competencies. Thus, based on theoretical

findings, the authors of this paper assume that organizational ambidexterity should be considered a set of integrated processes of a dynamic capabilities model (See Figure 5).

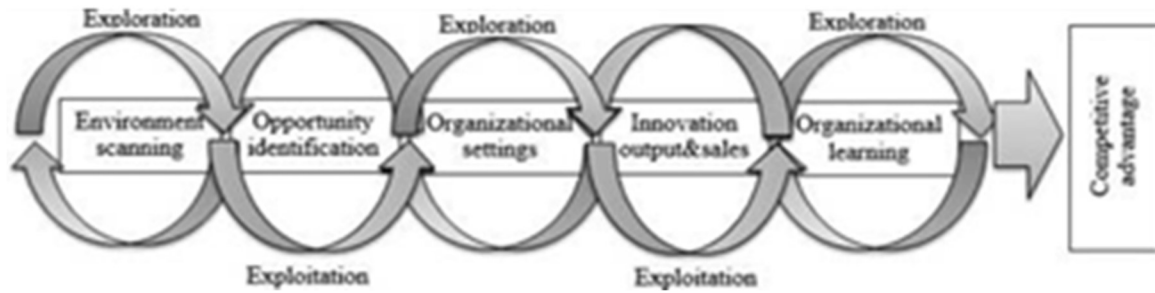


Figure 6 - The relationship between organisational ambidexterity and dynamic capabilities

2.5.1 The origins and the development of ambidexterity

The roots of ambidexterity can be found in the work of Duncan in the year 1976. Duncan was basically the first to deploy the term organizational ambidexterity and highlights the importance of dual structures. Dual structures can be achieved by “monodextrous” units that spatially separate exploratory from exploitative activities (Duncan, 1976; as cited in Raisch and Birkinshaw, 2008). Dual structures can be related to the concept of structural ambidexterity, meaning the spatial separation of exploration and exploitation. McDonough and Leifer (1983) present a “counter-concept” which involves the implementation of “parallel structures”. Parallel structures can be related to the concept of contextual ambidexterity, whereby people can switch between exploitative and explorative activities and do not solely focus on one of the two activities (McDonough and Leifer, 1983). The work of March (1991) is considered to be another pioneering article in the examination of ambidexterity. Considering the stream of organizational learning, March used the terms exploration and exploitation to explain that the balance of these two is essential for a system to survive and grow. Exploration can be related to terms, such as “search, variation, risk taking, experimentation, discovery, or innovation”, whereas exploitation comprises elements like “refinement, production, efficiency, selection, and implementation” (March, 1991, p.71).

March (1991) highlights the importance of establishing a balance between exploration and exploitation for two reasons. Firstly, the extensive use of exploration (failure trap) should not outplay exploitation, because high investments in innovation may not lead to long term gains when the focus lies on the exploration of new alternatives without the true improvement of competencies (pp. 71-72). Secondly, and conversely, the exclusive

use of exploitation (success trap) may lead to inertia and the inability to adapt to changing environments when experimentation is neglected due to the success experienced through the refinement of skills in the course of exploitation (pp. 71-72). The long-term success of an organization can thus be assured by the appropriate use of exploitation to guarantee viability and the simultaneous use of exploration to guarantee success in the future (March, 1991). The explanations on exploitation and exploration show that the respective coherent organizational designs are not necessarily in harmony. Depending on the task at hand, completely contradictory design conditions must be created within the company in order to achieve the desired behavior and working methods of the partners and employees involved. This contradiction is at the center of the challenge of an ambidextrous organizational structure.

2.6 Dynamic Capabilities and Strategic Orientation

The concept of dynamic capabilities (DCs) has emerged from the resource-based view of the firm. This has occurred partly because the original proposition that the firm's resources are a major source of competitive advantage has proved not to be valid for firms operating in turbulent environments (Wang and Ahmed 2007) or for SME's. (Teece et al. 1997; Singh & Giudice 2019).

As these scholars put it, DCs are based on distinctive organizational processes, which derive from the firm's specific asset positions and are molded by its paths, where the firm's competencies are based on a collection of routines, skills, and complementary assets which are difficult to imitate or emulate; as such, distinctive capabilities cannot be acquired, but instead, they need to be built, framed by a firm level strategy that provides orientation (Teece et al. 1997). Several studies have found that when some dimensions of strategic orientations (SOs) interlock with DCs, then there is a positive impact on firm performance (see for instance Lisboa et al. 2011; Makkonen et al. 2014; Sarkar et al., 2016).

Strategic orientation as a strategic choice may provide a source that helps firms build dynamic capabilities in fast changing environments. Recent strategic marketing literature pays special attention to strategic orientation as a significant driver of superior performance in emerging economies (for a review, see Zhou and Li, 2010). Strategic orientation focuses on how firms should interact with external environments such as

customers, competitors, and technology to conduct business (Day & Elksnin,1994; Gatignon and Xuereb,1997; Adams et al., 2019; Song, & Jing, 2017).

As such, strategic orientation reflects an outward-looking view of the fit between strategic choices and environment. In contrast, dynamic capability is inward looking, focusing on how to integrate and rejuvenate firm resources. Therefore, strategic orientation as a strategic choice should drive the way firms acquire, allocate, and utilize resources to create dynamic capabilities. As a result, an integration of these two approaches provides new insights into how strategic choice affects internal processes, such as resource reconfiguration and modification (Saeb et al., 2017; Sarkar et al., 2016).

Strategic orientation reflects the priority that a firm gives to particular activities when interacting with the external environment for capability building (Day, 1994; Helfat & Peteraf, 2015). Prior studies have predominantly focused on how strategic orientation directly impacts dynamic capabilities (Hung, Yang, Lien, Mclean, & Kuo, 2010; Zhou & Li, 2010); however, very a few studies have investigated the contingent role of strategic orientation in the development of dynamic capabilities, leaving a significant research gap (Fainshmidt et al., 2016; Jiang et al., 2019).

However, extant literature does not touch on the role of strategic orientation in building dynamic capability, which represents a significant research gap. The effectiveness of firm strategy depends on the fit between strategic choices and market dynamism (Ginsberg & Venkatraman, 1985). Accordingly, the effects of strategic orientation may be contingent on the dynamics of the environment (Day & Wensley,1988). Therefore, limited research investigates such contingencies in emerging economies, and even previous findings based on the context of developed economies are largely equivocal (Kirca et al., 2005). For instance, whereas some studies support the positive role of customer orientation (Lee et al.,2014; Slater and Narver,1994), others caution that it exerts a negative influence in an artistic environment (Voss and Voss, 2000). Zhou et al., (2007; Zhou & Li , 2010) find that customer and competitor orientations have differential effects in developed versus developing markets.

In sum, strategic orientation is related to the decisions that businesses make to achieve superior performance. Strategic orientation is an organization's direction for reaching a suitable behavior in order to attain superior performance. Competitor and customer orientations are the most important for organizations to achieve long term success (Hult et al., 2005; Yang et al, 2012; Al-Mohammad, 2010; Langerak et al, 2004; Kumar et al,

2011; Nasution et al, 2011; Lau, 2011). On the other hand, some research indicates that strategic orientation does not automatically lead to better performance (Hao and Song, 2016; Jassmy & Bhaya, 2016).

2.7 Dynamic Capabilities and Organizational Culture

Musyoka et al., (2015) explains that support the view that dynamic capabilities and organizational culture give firms competitive advantage and enhance their evolutionary fitness. Furthermore, this relationship is indirect, via the firm's dynamic capabilities and innovation outputs. In other words, a better evolutionary fit comes through sustainable renewal that positively affects the organization's innovative performance, and not because of dynamic capabilities in themselves.

The literature on dynamic capabilities, which contains relatively fewer quantitative accounts of their full effect on innovation performance on the one hand, and firm performance or competitive advantage on the other. Another contribution on the quantitative level is the use of an objective dependent variable explicitly to measure evolutionary fitness. Some study finding is that different dynamic capabilities have different effects depending on the competitive environment (Makonnen et al., 2014; Madureira, 2011; Odhiambo et al., 2018; Felipe, et al, 2017). Wang and Ahmed (2007) the reviews of the effects of dynamic capabilities should be achieving sustainable advantage.

However, in the ever-changing environment, the ability and preservation of competitive advantage is rather complicated. Therefore, rather than sustainable advantage, some research proposes to get a series of short-term advantages (D'Aveni et al., 2010). Based on the literature, this study need to know how is dynamic capabilities and organizational culture can sustain of competitive advantage in SME's to continuously provide satisfying products or services for customers better than competitors (Chirico & Nordqvist, 2010; Altay et al., 2018). Strategic management literature is employing DCs to characterize the use of company resources in a rapidly changing environment in order to achieve value creation and capture. The DC approach facilitates the identification of company or industry specific processes that are critical to company evolution (Wang & Ahmed, 2007) in identifying new opportunities and organizing effectively and efficiently to embrace them. In practical use the DC concept can be divided into three domains: the antecedents (internal and external factors), the elements (contents, knowledge and processes), and the

outcomes of DCs (linkage to economic performance and competitive advantage) Zahra, H. Sapienza and P. Davidson (2006). Resources and capabilities can be conceptualized as hierarchical constructs. At the bottom of the hierarchy are resources, zero-order elements (Wang & Ahmed, 2007). Operative capabilities, the first-order elements, skills required for utilizing resources, are higher in the hierarchy (Cepeda & Vera, 2007) followed by the second-order elements, core capabilities which are the critical for doing business (Prahalad & Hamel, 1990). In addition to having above discussed capabilities and being able to do something the third order dynamic capabilities (Teece, 2009), are needed to be able to create new ways of doing similar things. DCs influence the development and govern the rate of change of operational and core capabilities in a systematic way containing patterned elements and involve learning (Winter 2003; Yrjölä, & Kuusela 2021). Through the strategies management, firms may gain competitive advantage in a certain time. Nevertheless, in an increasing dynamic capability with quick changing in demand and frequent change in the firm environment, the prior competitive advantage may become traps, which needs strategic sense-making, timely decision making and dynamic implementation to reorganize the competitive advantage. A little advantage in sense-making can modify into a strength, strategic advantage of an organization (Haeckel, 1999; Li & Liu, 2014; Ko & Liu, 2017).

According to Morgan et.al 2009, competitive advantage outcomes arise from the correlation between dynamic capabilities and organizational culture. Therefore, the correlation between dynamic capabilities and organizational culture has potential for improving reconfiguration and deployment of organizational resources. Reason for expecting such interaction between dynamic capabilities and organizational culture. The correlation between dynamic capabilities and organizational culture is characterized by property interdependency that makes it difficult for competitor to elaborate. Hence, possession of positive dynamic capabilities and organizational culture is a key source of competitive advantage (Amit & Schoemaker, 1993; Violinda, & Jian, 2016).

The organizational culture stand out as one of the components that are significant to sustaining competitive advantage for being a best organization. A consistent organizational culture can develop a conducive environment, which in turn can develop a successful organization and critical in developing the confidence and trust of people in the group (Kotler & Keller, 2006; Gürlek & Tuna, 2018). Define of competitive

advantage as a company's competencies to make strategic planning that cannot match with competitor.

An organizational culture as a driver to support and development of people with the precondition ability and competencies needed to get the job done. Venture to encourage competitive advantage is to continuously encourage individuals to improve new advantages. Successes and failures of an organization depend on the level and purposes of the value created by the organizational culture. If organizational culture in the firm is totally consistent in their system of paying attention to operating efficiency and encouraging subordinates to be creative, the organizations can gain an edge against its competitors (Thompson, 2005; Chen et al., 2020).

Based on the design of the organizational culture is considered important, value work and change culture stability the interest of all stakeholders mention the role in maintaining an organizational culture that drive learning and competitive advantage. Resource based theory suggest better performance to get competitive advantage outcomes arising from the interaction between dynamic capabilities and organizational culture (Musyoka et al., 2015; Kontoghiorghes, 2016). Therefore, the interaction between organizational culture and dynamic capabilities has potential for improving reconfiguration and deployment of organizational resources. Reason for expecting such interaction is attributable to the complementary nature of dynamic capabilities and organizational culture (Arogyaswamy & Byles, 1987; Chan et al., 1997; Santafé Rojas et al., 2017; Lei & Nguyen, 2017).

The interaction between organizational culture and dynamic capabilities is characterized by asset interdependency that makes it difficult for competitors to disentangle. Hence, possession of positive dynamic capabilities, organizational culture and presence of supportive organizational processes is a key source of competitive advantage and performance outcome (Amit & Schoemaker, 1993; Violinda & Jian, 2016).

MO, a key factor in effectively meeting existing customer needs, constitutes one of the cornerstones of marketing literature (Hakala, 2011; Al-Henzab et al., 2018). Traditionally defined as a set of basic processes (Kohli & Jaworski, 1990, p. 6) or as an organizational culture (Narver & Slater, 1990), the literature has viewed mechanisms by which market knowledge is deployed (e.g., DC) as complementary with a firm's MO (Day, 1994; Morgan et al., 2009). Indeed, MO should work in combination with other firm capabilities in order to extract superior firm performance (Morgan et al., 2009; Zhou, Yim, & Tse, 2005). Accordingly, studies have begun to focus on the moderating role of MO on the

relationship between marketing capabilities (Cacciolatti & Lee, 2016; Morgan et al., 2009) or innovativeness (Menguc & Auh, 2008) and performance. DC's role of allowing the firm to make "timely and market-oriented decisions" (Barreto, 2010, p. 271) has been noted in the literature and we expect that MO can further improve the connection of a firm's resources and capabilities with the needs of customers (Deshpandé & Farley, 1998). Moreover, the importance of gaining a better understanding of the role of MO in the SME context has been highlighted as a needed extension to the literature (e.g., Raju, Lonial, & Crum, 2011). MO focuses on cultural norms to acquire information about customers and competitors, whereas DCs, according to Pavlou and El Sawy (2011), are conceptualized as generic knowledge-related processes (Eriksson, 2014); accordingly, we consider them as distinct constructs (e.g., Rowley, 2007). MO can facilitate the cross-fertilization of diverse ideas and, in turn, enhance knowledge-related processes (e.g., Menguc & Auh, 2008). That is, given that in market-driven organizations the processes for gathering, interpreting, and using market information are more systematic, thoughtful, and anticipatory than in other firms (Day, 1994), we expect an interaction effect between different DC dimensions and MO that promotes superior performance. This interaction effect may be especially important in SMEs since the internal assets of smaller firms are very limited (Døving & Gooderham, 2008; Lu & Beamish, 2001), and their resources need to be managed with great care.

- Learning Orientation

The term 'capability' refers to a routine-based activity inside the firm, which develops over time through problem solving and collective learning (Schreyögg & Kliesch-Eberl, 2007; Winter, 2003). According to Helfat and Winter (2011, p. 1244), a capability is in place when "the organization (or its constituent parts) has the capacity [i.e., is able] to perform a particular activity in a reliable and at least minimally satisfactory manner." What makes capabilities 'dynamic' is their change-oriented nature (Eisenhardt and Martin, 2000; Teece et al., 1997). Dynamic capabilities are "high performance routines" (Teece and Pisano, 1994, p. 537) that alter the way an organization makes its living and "promote economically significant change..., even if the pace of change appears slow or undramatic" (Helfat and Winter, 2011, p. 1249). Helfat et al. (2007, p. 4) build on previous literature and define dynamic capabilities as the "capacity of an organization to purposefully create, extend, or modify its resource base". Teece (2007) maintains that dynamic capabilities can be disaggregated into three interrelated capabilities: sensing,

seizing, and reconfiguring (hereafter: SSR). Sensing involves activities of scanning, search, and exploration aimed at gathering information and learning about markets, customers, competitors and the external environment at large (Augier and Teece, 2009). Seizing includes “the [systematic] evaluation of existing and emerging capabilities” (Wilden et al., 2013, p. 74), which “can entail making large and sometimes irreversible investments in tangible and intangible assets” (Helfat and Peteraf, 2015, p. 840). Finally, reconfiguration encompasses activities that recombine bundles of resources and ordinary capabilities (Sirmon et al., 2011; Wilden and Gudergan, 2015) in an attempt to “maximize complementarities inside and outside the enterprise” (Teece, 2012, p. 1398).

In this section we map out the relationships between knowledge management and dynamic capabilities (Figure ??) based primarily on the foregoing discussion, and we add further comments below where more justification appears to be necessary. We also extend the model in two directions. First, we identify the process of learning as a central mechanism that links the two concepts together. This draws on the review in the preceding sections which identified learning processes as being important in a number of respects, but we try to extend the thinking in this section by drawing on and summarizing some key concepts from the learning literature. Second, we extend the analysis to consider relationships with, and the impact on, corporate performance, which we define as the organization’s success or failure in achieving its financial and non-financial (i.e. quality, reputation, growth) goals (see Figure 6).

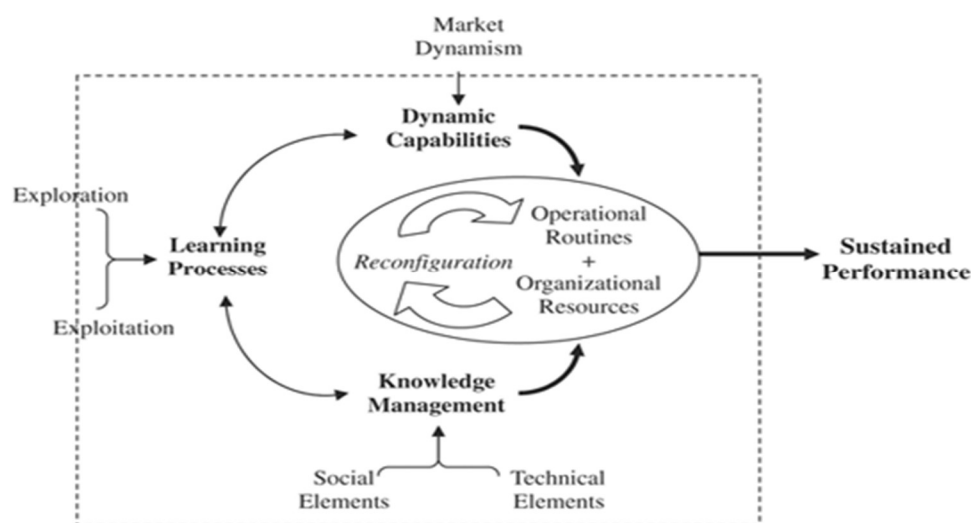


Figure 7 - Linking knowledge management and dynamic capabilities(Mark Easterby-Smith and Isabel M. Prietow, 2008)

The dynamic capabilities (DC) perspective (Teece, Pisano, & Shuen, 1990), which enhances the resource-based view (RBV), whereby the firm is conceived of as a collection of resources (Barney, 1991; Penrose, 1959), builds on the idea that organizations must develop a process of learning to adapt to environmental changes. Representing a “firm’s ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments” (Teece, Pisano, & Shuen, 1997, p. 516), DCs are based on distinctive organizational processes derived from a firm’s specific asset positions and molded by its paths (Teece et al., 1997). They allow firms to renew and make better use of their resources (Eisenhardt & Martin, 2000; Hou, 2008; Teece et al., 1997) and have the potential to enhance organizational performance outcomes (Schilke, 2014a).

DC represent a firm’s ability to develop new competences through the reconfiguration of resources (Teece et al., 1997). When DC are being developed, new managerial practices emerge (individuals’ sense and seize routines) and there is a resourcing process to produce new goods or services (organizational routines). The new routines are supported by a flow of new knowledge that makes sense to the individuals, which is related to OL (Brix, 2017; Morland et al., 2019). The relationship between OL and exploration–exploitation is clear since March’s (1991) article, and the literature on OA includes discussion of OL and knowledge (Simsek, 2009). There is an important difference between the exploration–exploitation relationship and ambidexterity. The first is present in how organizational decisions are made and how actions are carried out by individuals – these elements are part of the DC – sensing, seizing and reconfiguring (Teece, 2009). The result of this relationship may be more or less well balanced; it may be positive or negative, as changes are not always beneficial or have positive results (March, 1991). The second, OA, is an ability to cope with the tension between exploration and exploitation, which organizations seek to achieve and sustain (Brix, 2019). The presence of this ability is positive, as it means that managers can deal with the tension effectively (Sousa & Takahashi, 2019).

- Entrepreneurial Orientation

In the last few decades, entrepreneurial orientation (EO) has been consolidated as a differentiating firm factor in the entrepreneurship literature (Covin & Lumpkin, 2011). According to Lumpkin and Dess (1996), EO is defined as a firm’s strategic orientation that captures the methods, practices, and decision-making styles that managers use to act entrepreneurially. Despite the extensive literature linking EO to firm performance (Avlonitis and Salavou, 2007; Sciascia, D’Oria, Bruni, & Larraneta, 2014), only a few

studies have analyzed its antecedents (De Clercq, Dimov, & Thongpapanl, 2013; Kyrgidou & Spyropoulou, 2013; Rodrigo-Alarcon et al., 2017).

Lee et al. (2008) suggests that dynamic capabilities for innovation require managerial practices that include the deployment of entrepreneurial resources, and relational and decision support. Lee et al. (2008) propose that dynamic capabilities are not routines, but comprise managerial practices involving first, the selection of entrepreneurs who take on the primary task of assembling and integrating the resources needed to create innovations. Wu (2007) proposed that as an intermediate variable dynamic capability is between entrepreneurial resources and firm’s start-up performance. In Wu’s (2007) study initial stage of the firm’s; “resource integration capability (e.g., Teece et al., 1997; Eisenhardt et al., 2000), resource reconfiguration capability (e.g., Teece et al. 1997; Eisenhardt et al. 2000), learning capability (e.g., Luo, 2000) and ability to respond to changes” are variables of dynamic capabilities. Wu (2007) found that the more abundant the entrepreneur’s resources the greater the start-up’s dynamic capabilities. From the literature, we developed a concept model for “culture for open innovation dynamics,” as shown in Figure 7. Open innovation dynamics has two layers: (1) open innovation micro-dynamics, that is, open innovation–complex adaption–evolutionary change dynamics; and (2) open innovation macro-dynamics, that is, market open innovation–closed open innovation–social open innovation dynamics, as shown by the different flows of interaction in Figure 7 (Yun et al., 2016).

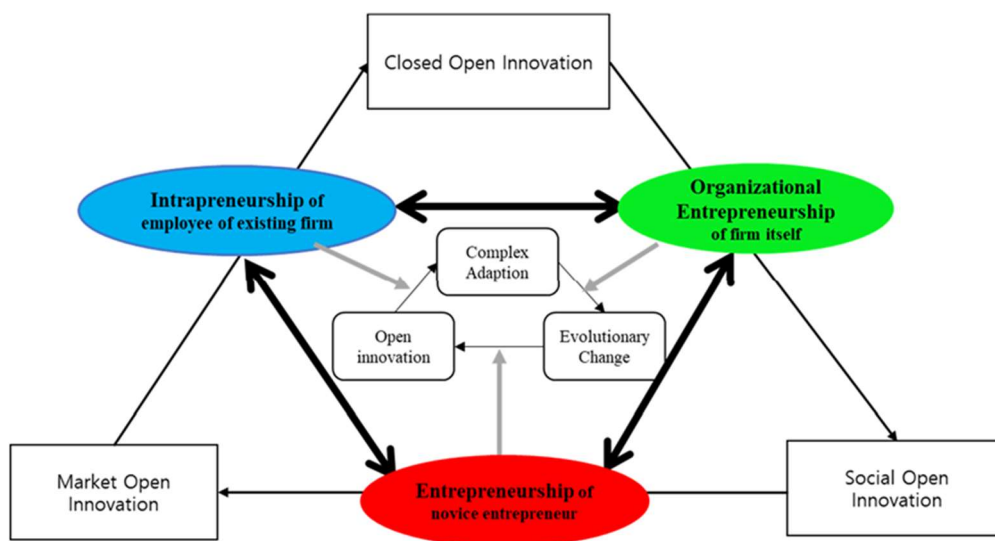


Figure 8 - The culture for open innovation dynamics

EO is thus ‘the processes, practices, and decision-making activities that lead to new entry’ (Lumpkin & Dess, 1996, p. 136). EO reflects the firm’s propensity to discover new opportunities, thereby improving performance (Lumpkin & Dess, 1996). This view of EO has had a significant impact on recent research on corporate entrepreneurship (Antoncic & Hisrich, 2001). For example, Antoncic and Hisrich (2001), combine measures for EO and corporate entrepreneurship, arguing that intrapreneurship, or entrepreneurship within an existing organization, consists of innovativeness, self-renewal, and proactiveness. In this context, innovativeness refers to a tendency to support new ideas and the ability to introduce new products/services (Gawke, Gorgievski, & Bakker, 2019; Miller & Friesen, 1983). Self-renewal refers to the transformation of organizations that regularly refresh their strategies to successfully adjust to changing external environments (Antoncic & Hisrich, 2001; Dess et al., 2003). This generally consists of a redefinition of their business concepts and the introduction of system-wide changes for innovation (Antoncic & Hisrich, 2001). Proactiveness, which encompasses initiative, risk-taking and competitive aggressiveness, refers to the extent to which organizations attempt to take the initiative and are willing to assume some degree of risk in pursuing opportunities (Antoncic & Hisrich, 2001; Chien & Tsai 2021).

Arthurs and Busenitz (2006) discuss the difference between dynamic capabilities and entrepreneurial capabilities. After defining entrepreneurial capabilities as “*the ability to identify a new opportunity and develop the resource base needed to pursue the opportunity*” (Arthurs & Busenitz, 2006, p. 199), they go on to point out that dynamic capabilities are primarily recursive in that they reconfigure resources in conjunction with extant opportunities, but entrepreneurial capabilities are linear in that they identify initial new opportunities and develop resources accordingly.

Entrepreneurial capabilities therefore focus on taking advantage of a new opportunity by employing non routine activities, but dynamic capabilities focus on identifying the next big opportunity and then working out how to employ it as part of the organization’s routine activities (Teece et al., 2007). This means that the two disciplines are complementary, not interchangeable (Arthurs & Busenitz, 2006; Hashim, Raza, & Minai, 2018). Entrepreneurial management function is embedded in dynamic capability (Teece, 2007). Teece et al., (2016) contends that entrepreneurial management involves the ability to sense and seize opportunities, orchestrate resources, and develop new business to gain

a competitive advantage. Lanza and Passarelli (2014, p.430) propose the term “dynamic entrepreneurial capabilities”, which they define as “the enactment, development, refinement, and routinization of a change those abilities of the entrepreneurial team”. Lisboa, Skarmeas, and Saridakis (2016) state that exploration and exploitation capability, viewed as dynamic capabilities, are basically the internal processes through which firms deploy innovativeness, proactiveness, and risk taking to react to market change (Wang et al., 2007; Li et al., 2021; Chien & Tsai, 2021; Monteiro et al., 2019; Dubey et al., 2020; Ciampi, et al., 2021).

2.8 Dynamic Capabilities and Competitive Advantage and Performance

The theory of dynamic capability explains why firms succeed or fail in market competition. Teece (2007) wrote: “The ambition of the dynamic capabilities framework is nothing less than to explain the sources of enterprise-level competitive advantage over time and provide guidance to managers for avoiding the zero profit condition that results when homogeneous firms compete in perfectly competitive markets” (2007: 1320). This is consistent with the formulation in Teece et al. (1997): “The fundamental question of strategic management is how firms achieve and sustain competitive advantage. We confront this question here by developing the dynamic capabilities approach” (1997:509).

Competitive advantage has been defined as “*the implementation of a strategy not currently being implemented by other firms that facilitates the reduction of costs, the exploitation of market opportunities, and/or the neutralization of competitive threats, and performance is generally conceptualized as the rents a firm accrues as a result of the implementation of its strategies*” (Newbert, 2008, p. 749). Dynamic capabilities are considered important for sustaining a firm’s competitive advantage (Teece, 2007). Since the nature of future competition and market conditions are difficult to forecast, a firm especially needs to be flexible with regard to the timing of market entry and decision changes occurring in response to the current environment (Sher and Lee, 2004). Prior studies have examined the effects of dynamic capabilities on competitive advantage (Marcus and Anderson, 2006; O’Reilly and Tushman, 2008; Sher and Lee, 2004). Marcus and Anderson (2006) found that dynamic capabilities had an impact on firm competence in supply chain management in the retail food industry because dynamic capabilities helped to flexibly solve the allocation problems in supply chain networks. O’Reilly and Tushman (2008; Kuo et al., 2017) discovered that dynamic capabilities could integrate

organizational resources to keep costs low and asset utilization high thereby increasing competitive advantage in response to environmental changes.

In proposing a theory of dynamic capability Teece et al. (1997) argued that existing theories failed to address the conditions of twenty-first-century competition; that is, they could not explain competitive advantage when competitive forces and resource-based advantages were subject to rapid obsolescence. To compete in conditions of rapid innovation and global competition, firms cannot rely on traditional sources of advantage such as industry structures and strategic positions (scale economies, vertical integration, product differentiation); baseline capabilities in product development, manufacturing, or marketing; or the efficiencies of learned routines and standard operating procedures. Only by building a super-capability for change itself—the capacity to sense, seize, and shape new market opportunities—could firms thrive in the market volatility and technological dynamism so prevalent in twenty-first-century global competition.

Therefore, dynamic capabilities are considered important for sustaining a firm's competitive advantage (Teece, 2007). Since the nature of future competition and market conditions are difficult to forecast, a firm especially needs to be flexible with regard to the timing of market entry and decision changes occurring in response to the current environment (Sher and Lee, 2004). Prior studies have examined the effects of dynamic capabilities on competitive advantage (Marcus and Anderson, 2006; O'Reilly and Tushman, 2008; Sher and Lee, 2004; Kuo et al., 2017; Wilden et al., 2019; Pisano, 2017; Laaksonen, et al., 2018; Coccia, 2017; Wu, 2017; Mikalef et al., 2020; Karia & Kays, 2020; Khourouh et al., 2020; Teece et al., 2016; Mithas, & Rust, 2016; Marcus and Anderson, 2006; O'Reilly and Tushman, 2008; Sher and Lee, 2004; Kuo et al. 2018; Shahtahmasbi, 2021; Teece, 2018; Linde, et al., 2021; Hassani, & Mosconi, 2022; Elf, et al., 2022; Felsberger, et al., 2022).

2.9 Dynamic Capabilities and Strategic Alliances

Over the past decades, the importance of strategic alliances has substantially increased and they have been seen as a response to the challenges of market globalization. Alliances play a critical role in firm survival, providing the access to critical resources that allow gaining and maintaining competitive advantages in today turbulent economic environment (Cobeña et. al., 2017). For firms, strategic alliances represent an important instrument to ensure the knowledge advancement and the availability of complementary

resources (Lubello et al., 2015). A strategic alliance is an intentional relationship between two or more firms, which remain legally independent, involving exchange, sharing or co-development of resources, competences and capabilities (Gulati, 1995). A strategic alliance is an important source of growth and competitive advantages (Hitt et. al., 2002; Kale & Singh, 2009; Russo & Cesarani, 2017) thanks to its own benefits that have been highlighted as follows (Arrigo, 2012): transaction costs, the enhancement of the competitive position and the acquisition of knowledge.

The core concept of company capability in this context is to create successful alliances based on the ability of a company to learn and its internal learning processes (Druvalans, de Man, & Volberda, 2003). In this context capabilities can be classified as higher order resources; resources that are difficult to obtain or emulate (Amit & Schoemaker, 1993) and can determine how firms manage their assets (Teece et al., 1997). Duysters and Heimeriks (2002: 5) define capabilities as “microlevel mechanisms that seek to optimize the ex-ante resource deployment and asset commitments in its alliances”, these micro level mechanisms consist of organisational functions, tools, management processes and external parties. Micro level mechanisms maximize the efficiency and effectiveness of other organisational resources (Duysters & Heimeriks, 2002) and have the potential to enhance a range of alliance performances in a firm portfolio (Heimeriks, Duysters, & Vanhaverbeke, 2007).

Studies have established the benefits of inter-organizational alliances, however some firms have demonstrated considerable strength in creating and capturing value (Heimeriks & Duysters, 2007; Kale et al., 2002; Sarkar et al., 2009). The concept of value (creation and capture) is closely tied to the ethos of strategic alliances and generation of competitive advantage (Ireland et al., 2002). “*The firm that can effectively cope with environmental uncertainty and ambiguity, proactively reposition in competitive markets and minimize transaction costs through strategic alliances increases the probability of maintaining competitive advantages*” (Ireland et al., 2002: 434). A resource-based alliance formation argument suggests that “firms are viewed as attempting to find the optimal resource boundary through which the value of their resources is better realized than through other resource combinations”. (Das & Teng, 2000: 36) and is particularly significant for SMEs in managing resource scarcity (Haase et al., 2015). This advantage emanating from strategic alliances can be classified as either integrating or managing resources.

Studies on strategic alliances frequently adopt a dynamic capabilities perspective (Teece et al. 1997; Vogel and Guettel 2013) and make theoretical claims that strategic alliances are higher-order resources that influence the lower order alliance-level resources (e.g., Schilke & Goerzen 2010; Sluyts et al. 2010). Network capability is a dynamic capability that creates interdependencies both within and outside the organization (Battistella et al., 2017).

It impacts upon a firm's ability to effectively initiate and manage strategic alliances and their associated relationships. Such relationships result in firm growth (Powell, Koput, & Smith-Doerr, 1996); organizational learning (Hamel, 1991; Hulbert, Gilmore, & Carson, 2012); competitive advantage (Gravier, Randall, & Strutton, 2008; Andersson, 2002; Eisenhardt & Schoonhoven, 1996; Gilmore, Carson, & Rocks, 2006); and transaction cost economies (Eisenhardt & Schoonhoven, 1996) for allied companies. Many of these relationships result in successive development of international operations in multiple markets (Chetty & Eriksson, 2002; Crick & Spence, 2005; Cyert & March, 1963; Welch & Luostarinen, 1988) which forms part of an organizational strategy. SMEs in mature industries and firms with traditional business activities are more likely to have internationalized over a period of time (Sahlin & Andersson, 2002; Boter & Holmquist, 1996) and in incremental stages (Madsen & Servais, 1997) by leveraging all available resources.

The literature shows that network capability allows firms to gain access to different resources, identify opportunities, and respond quickly to fast-changing market needs (Gulati, Nohria, & Zaheer, 2000; Acosta, Herrero Crespo, & Collado Agudo, 2018). Because of their limited size, entrepreneurial SMEs rely on external relationships to overcome liabilities (Zacca et al., 2015). In this context, a developed network capability represents a critical driver of entrepreneurial SMEs' success (Parida & Örtqvist, 2015). Specifically, the management of internal and external information flows can improve entrepreneurial SMEs' performance by stimulating knowledge sharing, cost reductions, innovation speed, reputation gains, and opportunity identification (Lin & Lin, 2016; Cenamor et al., 2019).

The ability to effectively configure and modify strategic alliances is an example of a DC (Kale et al., 2002; Amui et al., 2017; Ringov, 2017; Michailova & Zhan, 2015; Lin & Wu, 2014; Schilke, 2014; Denford, 2013). The alliance configuration capability allows a company to selectively modify its network of interorganizational partnerships to

confront changing environmental conditions (Hoffmann, 2007; Gulati, et al., 2012; Hooten et al., 2017).

Building on the DCs and alliance management literature, Schilke and Goerzen's (2010) research conceptualized alliance management capability as a second-order construct, reflected by the organizational routines of interorganizational coordination, alliance portfolio coordination, interorganizational learning, alliance proactiveness and alliance transformation (Schilke and Goerzen, 2010; Schilke, 2014).

DC view has an important implication on alliance literature; it promotes a shift in research focus from relational or structural factors, peculiar to the individual alliance relation, toward managerial capabilities specific of a single firm (Russo and Cesarani, 2017). According to such assumption, alliance success lies not only in the relationship among partners but also in each firm's alliance management capabilities (Schilke and Goerzen, 2010). DC has been largely used to explain the conditions of alliance success. The alliance management capabilities concept is a kind of DC, defined as superior firm's capabilities in managing alliances. They are heterogeneously distributed across firms and for this reason are useful to justify performance difference among firms (Russo and Cesarani, 2017). In alliances, resource integration is of extreme importance only when resources are strategically combined, manipulated and deployed rather than merely accumulated (Sirmon et al., 2007). This requires companies to develop specific processes, such as integration capability, to transfer resources and skills deliberately and through idiosyncratic combinations that meet current competition needs. Although many alliance studies emphasize learning and relational capital in creating competitive advantages, there is still a limited focus on the real process in which resources and capabilities can be transferred and integrated (Helfat et al., 2007).

The DC perspective holds that accumulated experience can lead to the development of new resources and capabilities. Thus, further research can focus on the role of an individual target and assess capabilities. One example would be a longitudinal study to investigate how firms develop bidirectional relations and how this contributes to the evolution of that capability. Finally, how would one triangulate these findings? The question is whether the conclusions reached are relatively sensitive, in whole or in some respects, to the methodology used. Contexts of triangulation, the level of rigor as to the method used and even the attitudes of the researchers are essential to validate a theory (Mir and Watson, 2001; Tsang and Kwan, 1999; Mamédo et al., 2019). It has also pointed

as future study the intervening role of inertia by controlling how long a firm maintained a certain capability. Further research may also shed light on the length of time it takes for different types of capabilities in different industries to materialize into measurable results. Knowledge gained from additional research in these areas can contribute significantly to a better understanding of DCs and strategic alliances and their implications in organizational structures.

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CHAPTER III - METHOD

3.1 Introduction

This chapter describes the guidelines followed in the development of this investigation to achieve the proposed objectives, as well as the existing explanations for the phenomenon to be studied attending the conceptual complexity. The choice and definition of the research methodology was done in accordance with both objectives and issues research.

To test the proposed research hypotheses, this investigation we used two structured questionnaires to collect data from two cross-sectional samples by partner managers of Portuguese SMEs. The initial three investigation models considered a sample of 387 partners, and the fourth and the fifth later model considered a sample of 281 partners. Structural Equation Modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find how Dynamic Capabilities can impact the competitiveness relationships.

Structural Equations Modelling was used to test de proposed hypotheses. Four partial models on the basis of five different papers already submitted for publish on scientific journals. Consequently, this chapter is organized as follow:

- 1) Introductory note, conceptual model and objectives, metrics and methodology;
- 2) The investigation strategy: the papers developed.

3.2 The research instrument, sample and data collection and measures

3.2.1. The research instruments

This describes the guidelines followed in the development of this investigation to achieve the proposed objectives, as well as the existing explanations for the phenomenon to be studied attending the conceptual complexity. The choice and definition of the research methodology was done in accordance with both objectives and issues research.

To test the proposed research hypotheses, this investigation uses a structured questionnaire to gather data from two cross-sectional samples of Portuguese SME's performance for the exploration and exploitation as dynamic capabilities view on the interact with competitive advantage and on the other and the interact of strategic alliances and dynamic capabilities.

Structural Equation Modelling is used to test the proposed hypotheses, and a multi-group analysis is conducted to find how dynamic capabilities can impact the suggested relationships.

Five partial models were on the basis of five different papers already submitted for publish on scientific journals. Consequently, this part is organized as follows:

- 1) Introductory note, the literature review, conceptual model and objectives, metrics and methodology;
- 2) The investigation strategy: the papers developed.

3.2.2 Samples and Data Collection

In order to test the proposed investigation first model and the research hypotheses, data was collected via a structured questionnaire, using a snowball approach. Between May and July 2017, 500 small and medium companies (SME's) were contacted by e-mail and/or by telephone to secure permission to distribute the questionnaires to their employees Using information obtained from Portuguese SMEs business, a total of 387 questionnaires were distributed to Portuguese SMEs and a key informant in each company was contacted with a request to complete the questionnaire. A total of 387 were returned. Of these, 28% were from companies with less than 20 employees, 42% had between 21 and 50, 8% had between 51 and 100 and 22% between 101 and 200 employees. Forty-three percent (43%) were share companies, 42% private limited companies and 15% single shareholder companies. In terms of lifespan, 25% were less than 10 years old, 65% between 10 and 20 years, 7% between 21 and 50 years and 3% more than 51 years. The respondents were scattered throughout the country with no sector being specially represented.

3.2.3 Sample description

Using the information obtained from Portuguese SMEs, a total of 387 questionnaires to Portuguese SMEs were obtained. Of these, 28% were from companies with less than 20 employees, 22% had between 21 and 50 and 40% had between 51 and 100 and 20% between 101 and 200 employees. Forty-three percent (43%) were share companies, 42% private limited companies and 15% single shareholder companies. In terms of lifespan, 25% were less than 10 years old, 65% between 11 and 20 years, 7% between 21 and 50 years and 3% more than 51 years. The respondents were scattered throughout the country with no sector being specially represented.

Table 4 - The sample characterization is presented on

Age	<i>Average</i>	25 years
Lifespan	<i><10</i>	25 %
	<i>11- 20</i>	65 %
	<i>21-50</i>	7%
	<i>51></i>	3%
Legal enterprise Classification	share companies	43%
	private limited companies	42%
	single shareholder companies	15%
Number of employees	<i>Average</i>	25 employees
	<i><20</i>	20%
	<i>21-50</i>	20%
	<i>51-100</i>	40%
	<i>101-200</i>	20%

To test the proposed investigation second model and the research hypotheses, data was collected via a structured questionnaire. A total of 281 questionnaires were obtained from Portuguese SMEs. Furthermore, a key informant in each company was contacted to complete the questionnaire. The respondents were scattered throughout Portugal with no sector being specially represented.

Twenty-eight percent were from companies with less than 20 employees, 42% from companies with between 21 and 50 employees, 8% from companies with between 51 and 100 employees, 6%, 101 and 200 employees, 3%. Forty percent of the companies were share companies, 42% private limited companies, and 15% single shareholder companies. In terms of lifespan, 70% of the firms were less than 10 years old, 60% had between 11 and 20 years, 6% between 21 and 50 years, and 4% more than 51 years.

Using information obtained from SME business associations, a total of 281 questionnaires were collected from Portuguese SMEs. A snowball approach has been adopted, i.e., the 20 first respondents were asked to identify and ask 5 additional key respondents from other companies to to complete this questionnaire.

In terms of lifespan, 23,4% were less than 6 years old, 19,4% between 7 and 12 years, 31,8% between 13 and 20 years old and 23,4% were below the age of 21. The respondents were spread throughout the country and no specific sector was represented.

It is verified that the percentage of respondents is distributed by CEOs (14.5%), CFOs (14.4%), Marketing Directors (10.9%), Commercial Directors (19.4%), Technical Officers (4.0%), General Managers (12.9%) and Administrative Staff / Others (24.9%). Out of all respondents, 48.3% were undergraduates, 14.9% a master's degree and the rest the Secondary Education. Finally, 31.8% of the respondents had between 13 and 20 years of experience and 44% between 2 and 12 years

The second sample characterization is presented on Table 5.

Table 5 - The second Sample characterization

Age	<i>Average</i>	25 years
Lifespan	<i><10</i>	70%
	<i>11-20</i>	20%
	<i>21-50</i>	6%
	<i>51></i>	4%
share companies		40%

Legal enterprise Classification	private limited companies	42%
	single shareholder companies	28%
Number of employees	<i>Average</i>	25 employees
	<i><20</i>	22%
	<i>21-50</i>	42%
	<i>51-100</i>	6%
	<i>101-200</i>	30%
Employee category		
	CEOs	14.5%
	CFOs	14.4%
	Marketing Directors	10.6%
	Commercial Directors	19.4%
	Technical Officers	4.0%
	General Managers	12.6%
	Administrative Staff/ Others	24.9%
Academic training		
	undergraduates,	48,3%
	master's degree	14,9%
	Secondary Education.	36,8%

Experience (years)		
	2-12	44%
	13-20	31,8%
	>	14,2%

With the second sample, to test the proposed research model and the research hypotheses, the data was collected via structured questionnaire. Using information obtained from SME business associations, a total 281 questionnaires were collected from Portuguese SMEs.

In terms of lifespan, 23,4% were less than 6 years old, 19,4% between 7 and 12 years, 31,8% between 13 and 20 years old and 23,4% were below the age of 21. The respondents were spread throughout the country and no specific sector was represented.

It is verified that the percentage of respondents is distributed by CEOs (14,14%), CFOs (14,4%), Marketing Directors (10,9%), Commercial Directors (19,4%), Technical Officers (4,0%), General Managers (11,9%) and Administrative Staff / Others (24,9%). Out of all respondents, 48,3% were undergraduates, 14,9% a master's degree and the rest the Secondary Education. Finally, 31,8% of the respondents had between 13 and 20 years of experience and 44% between 2 and 12 years and the remainder less than 2 years.

3.2.4 The global conceptual model and research objectives

The Conceptual global model

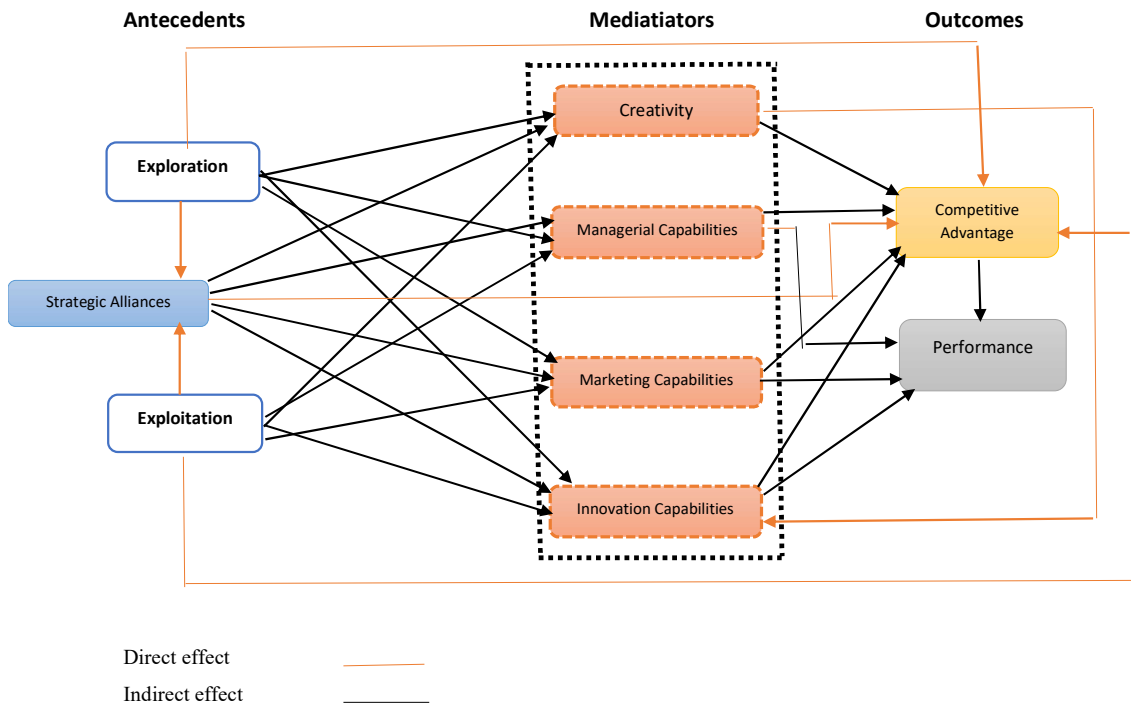


Figure 9 - The global conceptual model

The model showed in the next figure (Figure 8) represents the chain of effects between Exploration and exploitation and strategic orientation as antecedents of dynamic capabilities, mediating by creativity Managerial Capabilities, Marketing Capabilities and Innovation capabilities and the related outcomes. The model expresses a part of hypotheses that are going to be tested on a quantitative approach. This model was developed, tested and validated through four different empirical sub models, giving place to four papers representing the main body of the whole research work.

The previous figure represents the fundamental concepts of this investigation, and expresses the development of the causal relationship, on other words, construction of research hypothesis. The purpose of this investigation is to contribute to investigation model conceptualization and analysis of exploration and exploitation impacts. The proposed objectives are:

What are the main research trends in exploration and exploitation capabilities?

What the impact of market and learning orientation on competitive advantage?

Which the mediation impact between exploration and exploitation dynamic capabilities on the competitive advantage

Which the managerial capabilities and marketing capabilities contribute to competitive advantage?

Which exploitation and exploration capabilities contribute to competitive advantage and performance?

Which impact of the strategic alliances on dynamic capabilities?

Which the impact of the alliances management capabilities on the dynamic capabilities?

The answer to the set of relationships proposed in this model was equated from the partial and cumulative results that were tested in the three partial and complementary models corresponding to the four empirical papers produced.

The questionnaires include a brief presentation to clarify the purpose of the investigation, as well as the author's contacts for any clarifications requested. Some emails were received from several respondents showing interest in the results of the present study.

3.3 Measures

The measures were designed after reviewing the literature in the field and adapting scales that had already been validated in other research investigations. Such adaptation included the translation of vocabulary from English to Portuguese, to be more appropriate and hence more easily understood by respondents. Each scale included a combination of items from existing scales adapted to the present investigation. A seven-point Likert scale was used and participants were instructed to answer to each item based on the frequency of the actions they observed, ranging from *1 (strongly disagree)* to *“7 (strongly agree)”*.

Measurement Scales

Please indicate how much you agree or disagree with each of the following statements. Seven-point scale with 1 (strongly disagree) to 7 (strongly agree) scale anchors

Table 6 – The Scales

Exploitation Source: By Zhou and Wu (2010)
a) Upgraded current knowledge for familiar products
b) Invested in exploiting mature technologies that improve the productivity of current innovation operations
c) Enhanced abilities in searching for solutions to customer problems that are near to existing solutions
d) Upgraded skills in product development processes in which the firm already possesses rich experience
e) Acquired manufacturing technologies and skills entirely new to the firm
Exploration
a) Acquired manufacturing technologies and skills entirely new to the firm
b) Learned product development skills and processes entirely new to the industry
c) Acquired entirely new managerial and organizational skills that are important for innovation
d) Learned totally new skills in funding new technology and training R&D personnel
e) Strengthened innovation skills in areas where it has no prior experience

Exploitation Source: Atuahene-Gima and Murray (2007)
Our aim was to search for information to refine common methods and ideas in solving problems in the project.
Our aim was to search for ideas and information that we can implement well to ensure productivity rather than those ideas that could lead to implementation mistakes in the project and in the marketplace
We searched for the usual and generally proven methods and solutions to product development
Problems
We used information acquisition methods (e.g., survey of current customers and competitors) that helped us understand and update the firm's current project and market experiences
We used information acquisition methods (e.g., survey of current customers and competitors) that helped us understand and update the firm's current project and market experiences.
We emphasized the use of knowledge related to our existing project experience
Exploration
In information search, we focused on acquiring knowledge of project strategies that involved experimentation and high market risks

We preferred to collect information with no identifiable strategic market needs to ensure experimentation in the project.
Our aim was to acquire knowledge to develop a project that led us into new areas of learning such as new markets and technological areas.
We collected novel information and ideas that went beyond our current market and technological experiences
Our aim was to collect new information that forced us to learn new things in the product development project.

Innovation capability Source: Merrilees et al., (2011) based Hooley et al., (2005)
Better at developing new ideas to help customers
More able to fast track new offerings to customers
Better able to manage processes to keep costs down
More able to package a total solution to solve customer problems

Competitive Advantage Source: Koufteros et al. (1997). Li et al. (2006) Thatte (2007)
We offer competitive prices
We can offer prices as low or lower than our competitors
We can compete based on quality
We offer products that are highly reliable
We offer products that are very durable
We offer high quality products to our customers
We deliver customer orders on time
We provide dependable delivery
We provide customized products
We alter our product offerings to meet client needs
We cater to customer needs for “new” features
We are first in the market in introducing new products
We have time-to-market lower than industry average
We have fast product development

Performance Source: Morgan (2003)	
Market effectiveness	Market share growth relative to competition
	Acquiring new customers
	Increasing sales to current customers
	Growth in sales revenue
Profitability	Business unit profitability
	Return on investment (ROI)
	Return on sales (ROS)
	Reaching financial goals

Technological capabilities Source: Zhou and Wu (2010) (2011)	
1. Acquiring important technology information	
2. Identifying new technology opportunities	
3. Responding to technology chanMastering the state-of-art technologies	
4. Mastering the state-of-art technologies	
5. Developing a series of innovations constantly	

Innovation Capabilities Source: Ucbasaran et al., (2009)	
Introduced a new product or a new quality of an existing product	
Introduced a new method of production or modified an existing method	
Found a new market or employed a new marketing strategy in an existing market	
Found a new source of supply	
Found new ways of managing finance	
Developed new structures, systems, or procedures	
Introduced a new culture especially through the introduction of innovative people	

Found new ways of managing and developing personnel
Used new ways of managing quality control and R&D
Found new ways of dealing with government and other external agencies

Marketing Capabilities Source: Vorhies and Morgan, (2005)	
Pricing	<p>Using pricing skills and systems to respond quickly to market changes Knowledge of competitors' pricing tactics</p> <p>Doing an effective job of pricing products/services</p> <p>Monitoring competitors' prices and price change</p>
Product development	<p>Ability to develop new products/services</p> <p>Developing new products/services to exploit R&D investment</p> <p>Test marketing of new products/services</p> <p>Successfully launching new products/services</p> <p>Ensuring that product/service development efforts are responsive to customer needs</p>
Channel management	<p>Strength of relationships with distributors</p> <p>Attracting and retaining the best distributors</p> <p>Closeness in working with distributors and retailers</p> <p>Adding value to our distributors' businesses</p> <p>Providing high levels of service support to distributors</p>
Marketing communication	<p>Developing and executing advertising programs</p> <p>Advertising management and creative skills</p> <p>Public relations skills</p> <p>Brand image management skills and processes</p> <p>Managing corporate image and reputation</p>
Selling	<p>Giving salespeople the training, they need to be effective</p> <p>Sales management planning and control systems</p> <p>Selling skills of salespeople Sales management skills</p> <p>Providing effective sales support to the sales force</p>

Market information management	<p>Gathering information about customers and competitors</p> <p>Using market research skills to develop effective marketing programs</p> <p>Tracking customer wants and needs</p> <p>Making full use of marketing research information</p> <p>Analyzing our market information</p>
Marketing planning	<p>Marketing planning skills</p> <p>Ability to effectively segment and target market</p> <p>Marketing management skills and processes</p> <p>Developing creative marketing strategies</p> <p>Thoroughness of marketing planning processes</p>
Marketing implementation	<p>Allocating marketing resources effectively</p> <p>Organizing to deliver marketing programs effectively</p> <p>Translating marketing strategies into action</p> <p>Executing marketing strategies quickly</p> <p>Monitoring marketing performance</p>

Managerial Capabilities Source: Merrilees B., Rundle-Thiele S., and Lye, A. (2011) based in Hooley (2008)

Has better operational management expertise

Has better overall management capabilities

Is more able to execute marketing strategies quickly

Manages its supply chain better

Learning Orientation Source: Baker e Sinkula, (1999)

Commitment to learning	Managers basically agree that our organization's ability to learn is the key to our competitive advantage
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	The basic values of this organization include learning as key to improvement
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	The sense around here is that employee learning is an investment, not an expense
	Learning in my organization is seen as a key commodity necessary to guarantee organizational survival
Shared vision	There is a commonality of purpose in my organization
	There is a total agreement on our organizational vision across all levels, functions, and divisions
	All employees are committed to the goals of this organization
	Employees view themselves as partners in charting the direction of the organization
Open-mindedness	We are not afraid to reflect critically on the shared assumptions we have made about our customers
	Personnel in this enterprise realize that the very way they perceive the marketplace must be continually questioned
Intraorganizational knowledge sharing	We continually judge the quality of our decisions and activities taken over time
	There is a good deal of organization conversation that keeps alive the lessons learned from history
	We always analyze unsuccessful organizational endeavors and communicate the lessons learned widely
	We have specific mechanisms for sharing lessons learned in organizational activities from department to department (unit to unit, team to team)
	We put little effort in sharing lessons and experiences

Market Orientation source: Jaworski e Kohli (1993).

Market intelligence generation	In this business unit we meet with customers at least once a year to find out what products/services they will need in the future
	In this business unit, we do a lot of in-house market research
	We poll end-users at least once a year to assess the quality of our products/services
	We often talk with or survey those who can influence our end-users' purchases (e.g., retailers or distributors)
	In this business unit, intelligence on our competitors is generated independently by several departments
	We periodically review the likely effect of changes in our business environment (e.g., regulations) on customers
Market intelligence dissemination	We have interdepartmental meetings at least once a quarter to discuss market trends and developments
	Marketing personnel in our business unit spend time discussing customers' future needs with other functional departments
	Our business unit periodically circulates documents (e.g., reports, newsletters) that provide information on our customers
	When something important happens to a major customer or market, the whole business unit knows about it in a short time
	Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis
Responsiveness to market intelligence	It takes us forever to decide how to respond to competitor price changes (R)
	For various reasons, we tend to ignore changes in our customers' product/service needs (R)

	We periodically review our product/service development efforts to ensure that they are in line with what customers want
	If a major competitor were to launch an intensive campaign targeted at our customers, we would implement an immediate response
	Customer complaints fall on deaf ears in this business unit (R)
	Even if we came up with a great marketing plan, we probably would not be able to implement it in a timely fashion (R)
Entrepreneurial Orientation source: Naman JL, Slevin DP. (1993)	
We emphasize research, development and technology leadership	
We are pioneers in actions to which other organizations respond	
We are quick to introduce new administrative techniques and technological operations.	
We have a high tendency for high-risk projects.	
We are brave in our efforts to maximize the likelihood of new business opportunities	

Creativity source: Kevin Zheng Zhou & Fang Wu, (2012)	
We have many innovative ideas to serve the market	
We often approach problems in an original way.	
There are frequent suggestions on new ways to increase quality for the market.	
We have properly developed plans and calendars to implement new ideas for the Marketplace	
We find creative solutions to the problems we have.	

We are not afraid to take business risks
People suggest new ways to achieve organizational goals.
People demonstrate creativity in approaching the market when opportunity arises
People often suggest new ways of doing business
We promote and share new ideas about the market
People have new ideas for improving organizational performance
We have many creative ideas to apply to the market
We are looking for new technologies, processes, techniques and / or ideas for new products / services. to the market

New Product Performance Source: Cooper R. G., (1979).
New product success is expected to be positively related to
products which are superior, have a differential or economic advantage, or are unique relative to}
competing products;
products where the other elements of the Commercial Entity- selling, distribution production
etc. - are proficient;
projects where considerable technical and market knowledge is acquired;
projects where the technical, marketing, and evaluative(process) activities are proficiently unde
taken;
products entering mass, large, growing, dynamic, and uncompetitive markets, with a high but}
unsatisfied need for such products;
projects where a high degree of resource compatibility exists between the needs of the project and

the resource base of the firm;
familiar projects to the firm (do not involve new technologies, new markets, etc.);
market-derived projects (product idea came from the marketplace).

New product Development Source: Schilke (2014)
Objectives for undertaking innovation projects in the last three years: (‘Not important’ [1] to ‘very important’ [7])
Introduce new generation of products.
Enter new technology field
Extend product range
Open up new markets.
Enter new technology field

Knowledge Sharing Source: Wiklund, J., & Shepherd, D. (2003), based Gupta et al., (2012)
<i>Compared to other companies in your industry, does your company have a weak or strong position in terms of</i>
Staff with a positive commitment to the company’s development
Technical expertise
Expertise regarding development of products or services
Highly productive staff
Expertise in marketing,
Special expertise regarding customer service
Special expertise regarding management
Innovative markets
Staff educated in giving superior customer service

Staff who like to contribute with ideas for new products/service
Staff capable of marketing your products/services

Strategic Alliances Source: Schilke (2014)	
Interorganizational coordination	Our activities with R&D alliance partners are well coordinated
	We ensure that our work is synchronized with the work of our R&D alliance partners
	We ensure that our work is synchronized with the work of our R&D alliance partners
	There is a great deal of interaction with our R&D alliance partners on most decisions.
Alliance portfolio coordination	We ensure an appropriate coordination among the activities of our different R&D alliances
	We determine areas of synergy in our R&D alliance portfolio
	We ensure that interdependencies between our R&D alliances are identified
	We determine if there are overlaps between our different R&D alliances
Interorganizational learning	We have the capability to learn from our R&D alliance partners.
	We have the managerial competence to

	<p>absorb new knowledge from our R&D alliance partners</p>
	<p>We have adequate routines to analyze the information obtained from our R&D alliance partners</p>
	<p>We can successfully integrate our existing knowledge with new information acquired from our R&D alliance partners</p>
Alliance proactiveness	<p>We strive to preempt our competition by entering into R&D alliance opportunities</p>
	<p>We often take the initiative in approaching firms with R&D alliance proposals</p>
	<p>Compared to our competitors, we are far more proactive and responsive in finding and “going after” R&D partnerships</p>
	<p>We actively monitor our environment to identify R&D partnership opportunities</p>
Alliance transformation	<p>We are willing to put aside contractual terms to improve the outcome of our R&D alliances</p>
	<p>When an unexpected situation arises, we would rather modify an R&D</p>

	alliance agreement than insist on the original terms
	Flexibility, in response to a request for change, is characteristic of our R&D alliance management process

3.4 Statistical Approach

The information collected in the investigation database was submitted to a debugging procedure. Exploratory factor analysis (EFA) was used to determine how, and to what extent, the observed items are associated with their underlying factors Allen et al., (2010) and to examine the variables one-dimensionality. EFA was conducted using IBM SPSS software, version 22, allowing the determination of latent variables that are supposed to underlie observed variables, revealing patterns of correlations in new domains of manifest variables (Haig, 2010). Accordingly, literature, internal consistency should be determined before a test can be employed for research or examination purposes to ensure validity. The Cronbach alpha coefficient was used to test the internal consistency of the scale, namely the extent to which all the items in a scale measure the same construct.

3.4.1 Common Method Variance

As sample data are originated from surveys, there is the need for assessing the problem of common method variance. It is related to the amount of variance that may be attributed to the measurement method, rather than to the constructs the measures are assumed to reflect. Hence, it is a potential problem in survey data and can lead to misleading conclusions (Podsakoff et al., 2003). Based on Podsakoff et al. (2003), the existence of common method bias was assessed using two approaches, the Harman's single factor test and the common latent factor approach.

According to the Harman's test, the full set of variables used in the study is considered for exploratory factor analysis. The results may suggest a significant amount of common method variance in two cases: (1) when a single factor emerge from the factor analysis,

or (2) when one factor accounts for the majority of the variance explained (Podsakoff et al., 2003).

The common latent factor test is based on the CFA technique. This second approach to the problem of common method variance is more stringent (Podsakoff et al., 2003). For this procedure, a factor is included in the CFA model with all the variables linked to it with factor loadings constrained to one. If there is the situation where the common method variance is largely responsible for the relationship among the variables, this model should fit the data well and some original factor loadings will present loss of statistical significance.

Provided with these references, the following sequence related to the research procedures is followed:

- a) Data inspection about missing values and missing value treatment;
- b) Assessment of sampling adequacy for factor analysis using KMO coefficient and Barlett's test of sphericity
- c) Testing for the construct unidimensionality by within-scale exploratory factor analysis;
- d) Scale reliability and item reliability assessment by Cronbach's alpha and item-to-total correlation;
- e) Univariate normality assessment by Skewness and Kurtosis;
- f) Multivariate normality assessment by Mardia's coefficient;
- g) Multivariate outlier identification by Mahalanobis' squared distance;
- h) Assessment of the measurement model by confirmatory factor analysis;
- i) Evaluation of the model's goodness-of-fit;
- j) Construct validity and reliability assessment; and
- k) Common method variance assessment.

To minimize the risk of common method variance we used some procedural methods proposed by Podsakoff et al. (2003): (a) all respondents were guaranteed anonymity and confidentiality of the information collected, and assured that there were no right or wrong answers; (b) there was randomness in the ordering of multiple items; (c) there was no use of scales with bipolar numerical values and verbal designations were given for the mid-

points of the scales; (d) the questionnaire was divided into several sections with a brief explanation of what causes people to think in different ways about themselves in their relationships with their supervisors, and their organization, thereby reducing the risk of common method bias (Brewerton and Millward, 2001). A single factor test was also performed (Harman, 1967). A principal component analysis (unrotated solution) of all the items revealed 19 factors with values above 1. They accounted for 72% of the total variance, the first of which explained only 21% of the variance, suggesting that there were no problems with the common method variance. However, we also used a marker variable (Lindell and Whitney, 2001), 'purchase behaviour' in the statistical analysis. No correlation was found with any of the variables in the model.

3.4.2 Structural equation modelling

Structural equation models (SEM) are a statistical modelling technique, widely used in managerial sciences, and it can be viewed as a combination of factor analysis and regression path analysis (Hox & Bechger, 1999). SEM is often the best choice for social sciences, given the nature of their measures and data (Bowen & Guo, 2011). For social sciences, SEM has been seen as an approach to data analysis that combines simultaneous linear regression and confirmatory factor analysis (Ecob & Cuttance, 1987). This statistical technique builds and tests statistical causal models and starts with a hypothesis development based on a conceptual model. Among its advantages is to model constructs as latent variables, that are estimated in the model from observed variables and non-observed and measured directly, named the latent variables. The two steps approach is one of the more interesting approaches since it allows to start with a confirmatory factor analysis (CFA), based on the measurement model and then the path diagram that estimates the relationships between variables and tests the proposed hypotheses (Harrington, 2009).

CFA allows for the assessment of fit between observed data and an a priori conceptualized, theoretically grounded model that specifies the hypothesized causal relations between latent factors and their observed indicator variables (Hancock & Mueller, 2001). CFA may be a stand-alone analysis, or a component or preliminary step of a SEM. According to Hair et al. (2014), SEM is a covariance structure analysis technique, to explain the covariation among the observed variables.

The present investigation used this methodology to develop and evaluate the considered measures. The construct validity was performed by examining the relations between each

construct and the other constructs (Pallant, 2007). They were defined specific hypotheses and tested, about how any measure is related to other measures based on literature review (Allen et al., 2010).

According to Hair et al. (2014), there are three different approaches towards SEM, namely a strictly confirmatory approach, an alternative/competing models approach and the model development approach. Both confirmatory modelling approach and model development approach were considered in the present investigation. Model development approach offers a starting point for the design of the conceptual model, and the confirmatory approach allows to evaluate the data fitting to the investigation purposes, considering the specification of the established relationships.

3.4.3 Specification, identification and estimation of the conceptual model

The first step of the SEM involves specifying a theoretical model, that is specifying a causal model from theory by building a path diagram of causal relations (Ramlall, 2017). According to this author, the aim is to convert the path diagram into a set of structural and measurement models, all based on theoretical foundations. Once a model fits well with the data and give an interpretable solution, the researcher can conclude that this particular model is a plausible solution (Vogel et al., 2017).

The second step of the SEM is identification. According to Ramlall (2016), the main purpose that underpins identification relates to deriving unique set of parameters based on the sample covariance matrix, and the theoretical model. If all parameters are identified, the whole model is identified. If one or more parameters are not identified, then the entire model is not identified. SEM identification is a fundamental and complex step (Allen et al., 2010; Kline, 2011). The identification involves the analysis about the conditions to obtain a unique set of parameters that fit well with the data, associated with the transposition of the variance-covariance matrix of observed variables into the model parameters under study (Allen et al., 2010).

The third step of the SEM is estimation, namely chose the input matrix type in order to estimate the proposed model (Ramlall, 2016). According to Vogel et al., (2017), the maximum likelihood method estimator is one of the most used approaches, since (i) the observed variables follow asymptotically a normal multivariate distribution, (ii) the adjustment function has an invariant and free scale, (iii) the estimates obtained through the adjustment function are robust, unbiased and asymptotically efficient.

According to Bentler and Chou (1987), although structural models can be quite easy to set up, estimate, and evaluate, their output should always be viewed with a certain amount of scepticism: there are many ways in which the methods can fail to reach the lofty goal of evaluating a causal hypothesis. According to Gonçalves (2017), the underlying causes for this are (i) model specification errors, (ii) sample size, (iii) model complexity, (iv) data imputation errors, (v) outliers, (vi) undersized models and (vii) inadequate initial values. Iacobucci (2009) considers that the first concern that investigators frequently has are related with sample size. This author explains that if the measurement is strong (with 3 or 4 indicators per factor, and good reliabilities), and the structural path model not overly complex, then samples of size 50 or 100 can be plenty. Nevertheless, according Hinkin (1998) is preferable to have samples with 200 or more observations in order to obtain estimates for the parameters that may be useful, to minimize error.

3.4.4 Construct validity and reliability

According Hinkin (1998) there are three major aspects of construct validation: (a) specifying the domain of the construct, (b) empirically determining the extent to which items measure that domain, and (c) examining the extent to which the measure produces results that are predictable from theoretical hypotheses. In order to assure that a conceptual model is appropriate and useful, it must be parsimonious and comprehensible.

Bollen (1989) highlights the importance of construct validity assessing whether a measure relates to other observed variables in a way that is consistent with theoretically derived predictions. For the acceptance construct validity, the measures of a construct must be suitable for making observable predictions derived from theoretical propositions (Hamann et al., 2013). Allen (2010) considers that in reviewing the model parameter estimates, there are three criteria of high interest that should be considered by the investigators, namely (i) feasibility of parameter estimates, (ii) the appropriateness of the standard errors and (iii) the statistical significance of the parameter estimates.

Cui, Y., Ahmad, S., and Hawkins, J. (2016) refers that validity is the ability of an instrument to measure what it supposed to be measure for a construct, and is achieved when the three types of validity are fulfilled:

- 1) **Convergent Validity.** The convergent validity is achieved when all items in a measurement model are statistically significant (Bollen, 1989; Cui et al., 2016). This

validity could also be verified through Average Variance Extracted (AVE). The value of AVE should be greater or equal to 0,5 in order to achieve this validity.

2) Construct Validity. The construct validity is achieved when the model fit indexes achieve the level of acceptance (Garver & Mentzer, 1999; Cozby & Bates, 2012; Ahmad *et al.*, 2016):

- Discrepancy chi square (Chisq), *acceptable when* $P > 0,05$;
- Root Mean Square of Error Approximation (RMSEA), *acceptable when* $< 0,08$;
- Goodness of Fit Index (GFI), *acceptable when* $> 0,90$;
- Adjusted Goodness of Fit (AGFI), *acceptable when* $> 0,90$;
- Comparative Fit Index (CFI), *acceptable when* $> 0,90$;
- Tucker-Lewis Index (TLI), *acceptable when* $> 0,90$;
- Normed Fit Index (NFI), *acceptable when* $> 0,90$;
- Chi Square/Degree of freedom (Chisq/df), *acceptable when* $> 0,90$.

3) Discriminant Validity. The discriminant validity is achieved when the measurement model is free from redundant items (Hair *et al.*, 2014; Cui *et al.*, ., 2016). Another requirement for discriminant validity is the correlation between each pair of latent exogenous construct should be less than 0,85. Other than that, the square root of AVE for the construct should be higher than the correlation between the respective constructs.

According Maxham and Netemeyer (2003) reliability is a measure of internal consistency in scale items, much like Cronbach's alpha. It can be thought of as being equal to the total amount of true score variance relative to the total scale score variance (Brunner & Süß, 2005). Cui *et al.*, (2016) refers three criteria for the assessment of reliability for a measurement model:

1) Internal Reliability. Internal reliability is achieved when the Cronbach's Alpha value is 0,6 or higher (Zainudin, 2015).

2) Construct Reliability. The measure of reliability and internal consistency of the measured variables representing a latent construct. The reliability of each indicator should exceed 0,5, which corresponds to a standardized coefficient of 0,7 (Hair *et al.*, 2006).

3) Average Variance Extracted. Average Variance Extracted (AVE) is the average percentage of variation explained by the items in a construct. An $AVE \geq 0,5$ is required (Zainudin, 2015).

Considering the above, some of the requirements that will be used in order to ensure the validity of the constructs of the present investigation are as follows:

- 1) The standardized coefficients must correspond to 0,5 or higher and the ideal value is 0,7 or higher;
- 2) To ensure adequate Convergent Validity, Average Variance Extracted must be 0,5 or higher;
- 3) Average Variance Extracted values should be higher than the shared variance between two factors;
- 4) Construct Reliability should be 0,7 or greater for adequate convergence or internal consistency of measurements.

3.4.5 Descriptive analysis of the variables

Table 2 shows the means and respective standard deviation, according to the answers gathered in the context of this study that allows us to characterize the attitudes of the sample towards the variables of the global research model.

Table 7 - Descriptive analysis

Table 7 shows the means and respective standard deviation, according to the answers gathered in the context of this study that allows us to characterize the attitudes of the sample towards the variables of the global research model.

Descriptive analysis of the variables

Table 7 – Descriptive analysis

Variables	N	Average	Standard Deviation
Exploration Capabilities	387	17,9059	2,50152
Exploitation Capabilities	387	17,4477	2,04563

Variables	N	Average	Standard Deviation
Innovation Capabilities	387	34,4777	6,99235
Managerial Capabilities	387	37,8274	9,05233
Creativity	387	66,8479	13,2044
Marketing Capabilities	387	103,670	14,8355
<i>Pricing</i>	387	33,4300	4,87282
<i>Marketing communication</i>	387	18,0717	2,39268
<i>Selling</i>	387	15,8482	4,51183
<i>Channels</i>	387	17,7074	2,97013
<i>Market information management</i>	387	16,0853	4,06028
<i>Marketing planning</i>	387	18,0717	4,41446
<i>Marketing implementation</i>	387	15,1654	4,41446
<i>Marketing Comunication</i>	387	18,0717	2,39268
Market Orientation	387	58,4681	7,68932
<i>Market intelligence generation</i>	387	26,6912	4,20463
<i>Market intelligence dissemination</i>	387	22,3271	3,39328
<i>Responsiveness to mark intelligence</i>	387	28,3514	3,67368
Learning Orientation	387	57,3748	11,72485
<i>Commitment to learning</i>	387	21,4512	5,09635
<i>Shared vision</i>	387	26,3428	6,37669
<i>Open-mindedness</i>	387	28,7425	4,10435
Competitive Advantage	387	28,6434	3,78294
Performance	387	23,5746	5,63220
<i>Market effectiveness</i>	387	16,5019	3,89842
<i>Profitability</i>	387	14,1453	4,60872

Variables	N	Average	Standard Deviation
Exploration Capabilities	281	17,4160	3,76941
Exploitation Capabilities	281	23,5901	4,13864
Innovation Capabilities	281	46,7153	10,27627
Technological Capabilities	281	23,0544	5,87984
Strategic Alliances	281	75,0997	11,44327
<i>Interorganizational coordination</i>	281	18,0124	3,24806
<i>Alliance portfolio coordination</i>	281	18,4494	3,36281
<i>Interorganizational learning</i>	281	18,2281	3,41274
<i>Alliance proactiveness</i>	281	3,19837	3,19837
<i>Alliance transformation</i>	281	11,1476	3,22722
New product Development	281	17,3206	3,6700
Knowledge Sharing	281	17,4160	7,36400
Export Performance	281	53,1288	3,76941

Student test for independent samples was applied to test the differences of means for the variables under analysis, based on demographic characteristics. No significant differences were found for age, tenure and position.

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CHAPTER IV – THE INVESTIGATION STRATEGY

Based on literature review and on existing appeals for future studies, the conceptual models developed and analysed are part of the exploratory and instrumentalist approaches. The objectives of this investigation in a complementary and incremental approach, corresponding to the 5 papers already submitted to scientific journals, that are part of this investigation. The investigation strategy intends to:

Objectives

Identify the main impact of Dynamic capabilities, managerial and marketing capabilities, creativity and innovation capabilities and their impact on the competitive advantage and firm performance.

1. Investigate the impact of dynamic capabilities in the context of exploration and exploitation ambidexterity, on competitiveness and performance, considering the mediating role of marketing and managerial capabilities. The investigation of these

effects is performed considering the moderating role of entrepreneurial orientation on the proposed relationships;

2. Investigate the impact of Market and learning Orientation on competitiveness and performance, considering the mediating role of marketing and managerial capabilities. The investigation of these effects is performed considering the moderating role of Ambidexterity on the proposed relationships;

3. Investigate the Dynamic Capabilities, Creativity and Innovation Capability and their impact on Competitive Advantage and Firm Performance by the moderating role of Entrepreneurial Orientation;

4. Investigate the effect of strategic alliances and exploration and exploitation capabilities on innovation and new product development. The paper analyses the effects of knowledge sharing and strategic alliances relationships at firm level. Specifically, we study the influence of strategic alliances relationships in new product development and the mediating role of exploration and exploitation as dynamic capabilities.

5. Investigate the influence of Alliance Management Capability, Knowledge Sharing and Technological Capabilities on Export Performance. Besides that, the moderating role of Ambidexterity on the proposed relationships is investigated.

INVESTIGATION 1

Dynamic Capabilities, Managerial and Marketing Capabilities and their Impact on the Competitive Advantage and Firm Performance

Published in International Journal of Entrepreneurship and Small Business (2016)
Indexed SCOPUS

Purpose

The purpose of first paper was to identify the impact of Dynamic Capabilities (exploration and exploitation capabilities) on the Competitive Advantage and SMEs Firms Performance by the mediation of Marketing Capabilities and Managerial Capabilities, considering the moderating role of Entrepreneurial Orientation.

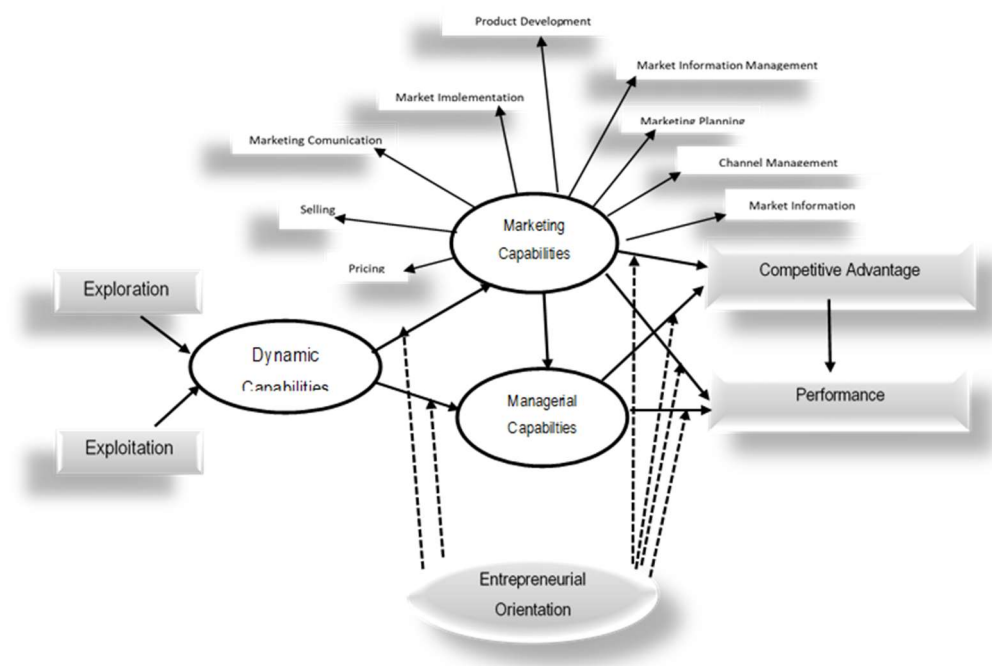


Figure 10 - Conceptual model of first paper

The main Results

The results show that DC have an indirect effect on performance and competitiveness, via managerial and marketing capabilities. These last capabilities act like an instrument

from DC (Sousa and Tan, 2015) to help companies be more competitive and perform better. Marketing capabilities exert a significant influence both on competitiveness and performance while management capabilities may reinforce the effects of DC on marketing capabilities.

Apparently, an EO creates the context where exploitation and exploration give birth to new capabilities and skills, thus moderating the proposed relationships. Exploration produces superior results in less entrepreneurial environments while exploitation produces better results where there is a greater EO. Apparently, exploration acts to ignite companies' capabilities. Simultaneously, marketing capabilities have superior impacts on competitiveness and performance in the presence of a higher EO. Competitiveness is more important for performance when entrepreneurial orientation is lower.

Contributions

The investigation model developed and tested in the study shows how DC use their management and marketing expertise to impact favorably on competitiveness and performance. Resource-based theory suggests that better performance results from the interaction between a firm's knowledge resources and capabilities (Morgan, 2009). This study traces the chain of effects in this respect, showing how DC are transformed into competitiveness and performance (Helfat and Peteraf, 2003; Helfat, 2007).

Consequently, the investigation increases knowledge in the field of DC, exploring how they influence a firm's overall performance, and highlighting the role of marketing and managerial capabilities. It does this in the context of Portuguese SMEs and highlights how DC with a more cultural character (Chirico and Nordqvist, 2010) exert their influence on the overall performance of a company. Hence, the study's results reveal interesting strategies for companies wanting to strengthen their managerial and marketing skills. A supportive culture based on DC (explorative and exploitative), and combining short-term and long-term approaches, has a significant and important impact on the management and marketing capabilities, which, in turn, contribute to the performance and competitiveness of SMEs (Coradi and Heinzen, 2015).

INVESTIGATION 2

The influence of Market and Learning Orientation on Competitive Advantage, Managerial and Marketing Capabilities based on the dynamic capabilities perspective: the role of Ambidexterity

Under review on the European Journal of Marketing

Purpose

The objective of this paper is to analyze the impact of Market and learning Orientation on competitiveness and performance, considering the mediating role of marketing and managerial capabilities.

Model

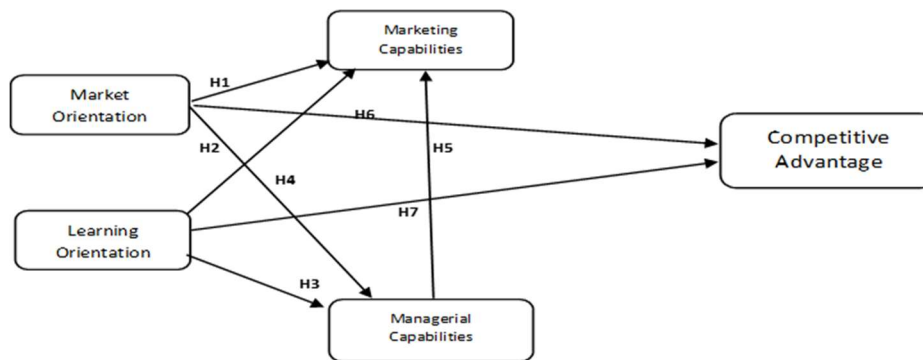


Figure 11 - The Conceptual model of second paper

The main Results

The main goals of this research were to evaluate the impacts of Organisational Culture (Market Orientation and Learning Orientation) on competitive advantage by Organisational Capabilities (managerial and marketing capabilities). The moderating role of Ambidexterity was tested to provide a specific context where these relationships could take place. The results are drawn from a cross-sectional investigation of 387 Portuguese companies.

The mediating effects of Organisational Capabilities were used to better understand the links and the way the effects from Market Orientation and Learning Orientation are

transmitted to competitiveness. The results show that Organisational Culture (market orientation and learning orientation) have an indirect effect on performance and on competitiveness, via dynamic capabilities. These last capabilities act like an instrument from organisational culture to help companies be more competitive and perform better. Ambidexterity exerts a strong and significant moderation influence both on competitiveness and performance and reinforce the effects of Market Orientation and learning orientation on managerial and marketing capabilities.

Contributions

This paper describes the relationship of superior performance of the managerial and marketing capabilities, Market orientation, learning orientation and the culture of the organisation affect indirectly the performance of the organisation through marketing and managerial capabilities. Obviously managerial capabilities deal with introducing new policies, procedures, technical improvements, technical changes, creative ideas, new products and services to gain a sustainable competitive advantage. Managerial and marketing capabilities leads to superior organisational performance through effective adhocracy organisational culture organisational learning and implementing market orientation. There is a need to integrate the resources to implement market orientation, to strengthen their marketing and managerial capabilities and to achieve sustainable competitive advantage and superior organisational performance.

INVESTIGATION 3

Dynamic Capabilities, Creativity and Innovation Capability and their impact on Competitive Advantage and Firm's Performance: The moderating role of Entrepreneurial Orientation

Published in Journal TECHNOVATION (2019) Indexed ISI

Purpose

This paper investigates the impact of dynamic capabilities (DC) on competitive advantage (CA) and performance considering the mediating role of creativity and innovation capabilities (IC). The moderating role of entrepreneurial orientation (EO) was introduced

to establish a specific environment which could boost or inhibit the proposed relationships.

Model

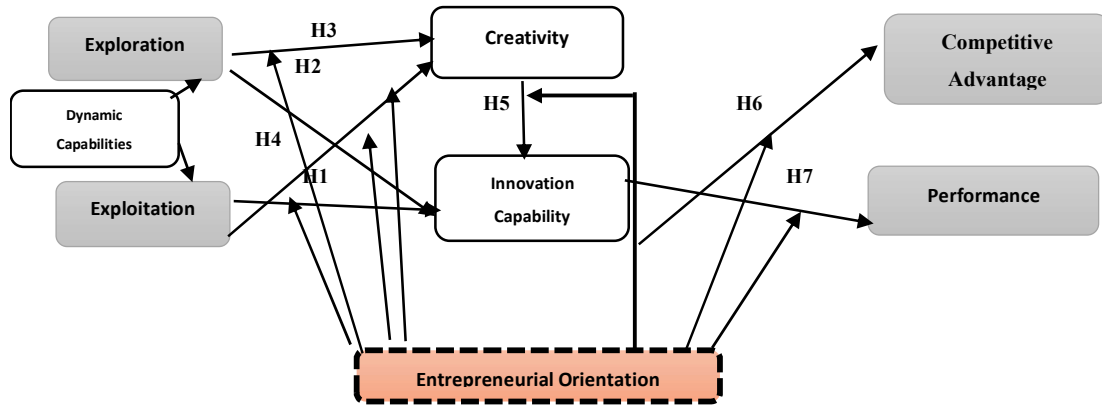


Figure 12 - Shows the conceptual model of this research

The main Results

The main goals of this research were to evaluate the impacts of DCs (exploitation and exploration) on competitive advantage and performance, mediated by creativity and IC. The moderating role of EO was tested to provide a specific context where these relationships could take place. The results are drawn from a cross-sectional survey of 387 Portuguese companies.

The results show that DCs have an indirect effect on performance and competitiveness, via creativity and IC. These latter capabilities act like an instrument of DC (Lam, 2004; Cassiman and Veugelers, 2006) to help companies be more competitive and perform better. ICs exert a significant influence both on competitiveness and on performance, while creativity may reinforce the effects of DCs on IC (Gaspersz, 2005; Wood, 2003; Woodman et al., 1993; Klijn and Tomic, 2010).

These results show how exploration surpasses exploitation in its impacts on creativity and innovation, even if both have a positive influence on them. Results show, as well, how the presence of EO may boost the relationships between DCs and creativity and innovation. Finally, the present study suggests that DCs, creativity and IC collectively

contribute to the creation of a significant positional advantage (cf. Day, 1994) through their interaction.

Contributions

The literature shows that little research has been produced on how DCs act and how SMEs operating in transaction economies behave to increase their competitiveness and performance. This study contributes to the theoretical literature on capabilities and creativity – innovation field in several different ways. First, this work is based on a sample of Portuguese SMEs in a transaction economy that is fast-moving in its process of internationalization and innovation.

Second, while past research offers inconclusive results about the impacts of DCs on competitiveness and performance, which may be indirect, this study highlights the distinct direct and mediating effects of creativity and IC on overall competitiveness and performance. The study sheds some light on a research stream that explains the growth of a firm through creativity and innovation for domestic markets or by entering new international markets.

Third, this research helps to close the gap in the literature on the relationships between DCs and competitiveness, and hence performance, as it shows the importance of integrating creativity and IC in a context of uncertainty and environmental turbulence, in a transition economy.

INVESTIGATION 4

The influence of strategic alliances on innovation and new product development through the effects of exploration and exploitation

Published in Management and Decision (2020) Indexed ISI

Purpose

This study delves in the controversy about the nature and the sign of the effect of strategic alliances and exploration and exploitation capabilities on innovation and new product development. The paper analyses the effects of knowledge sharing and strategic alliances relationships at the firm level. Specifically, we study the influence of strategic alliances

relationships in new product development and the mediating role of exploration and exploitation as dynamic capabilities.

Model

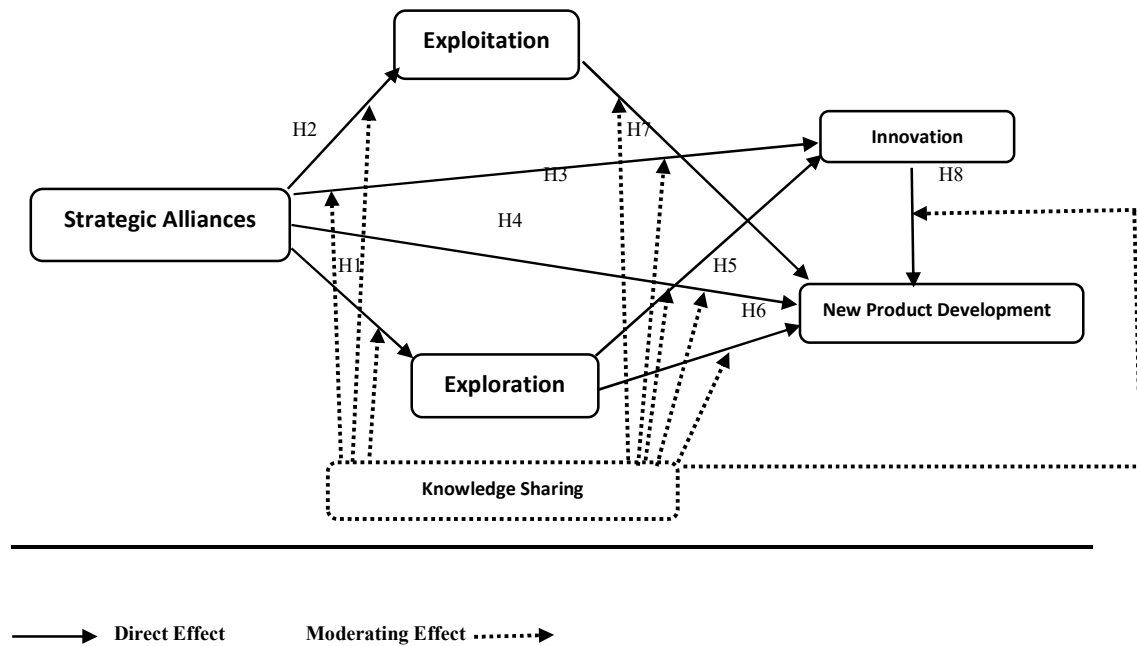


Figure 13 - The Conceptual Model of the fourth paper

The main Results

The results show that strategic alliances have an indirect effect on innovation and new product development, via exploration and exploitation capabilities. These last capabilities act like an instrument from strategic alliances to help companies be more competitive and perform better. Exploration and exploitation capabilities exerts a strong and significant influence both on innovation and new product development, while exploration and exploitation capabilities may reinforce the effects of strategic alliances on innovation capabilities and new product development. Therefore, these results confirm one contribution to fill the gap between exploration and exploitation, new product development and knowledge sharing.

Contributions

Our results contribute to fill the identified gaps suggesting that the strategic alliances are significantly related to innovativeness and new product development. This investigation

innovates showing how the management of strategic alliances may impact on innovation and new product development, through dynamic capabilities: exploitation and exploration. This research is grounded on the dynamic capabilities that underpin the firms' ability to generate strategic ambidexterity (Benner & Tushman, 2003). Drawing on different approaches to analyzing strategic alliances and exploration and exploitation capabilities –organizational learning, organizational design and technological innovation (Luo & Rui, 2009) this article investigates exploitation and exploration capabilities in the context of innovation in SME's firms. Within this framework, our research provides several important contributions. First, we provide additional nuances that enhance understanding of the use of exploration and exploitation in the context of SME's. Our results align with Yalcinkaya et al. (2007), and Lisboa et al. (2011) who suggest the existence of an optimal pathway for deploying exploration and exploitation capabilities.

INVESTIGATION 5

Alliance Management Capability, Knowledge Sharing and Technological Capabilities on Export Performance and the role of Ambidexterity

Under Review on Journal of Management

Purpose

This study looks into the direct impact of alliance management capabilities on export performance, by examining the mediating effect of knowledge sharing and technological capabilities, moderated by ambidexterity.

Model

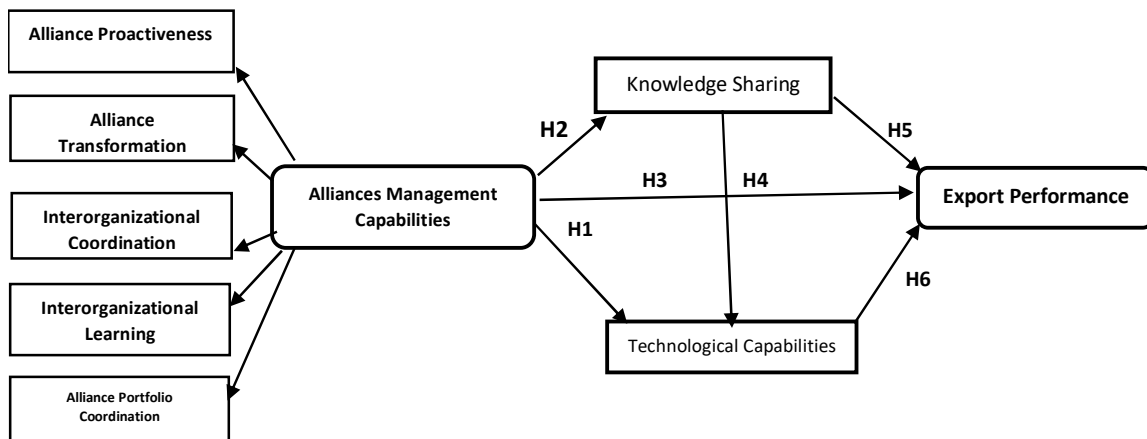


Figure 14 - The Conceptual Model of the fifth paper

The main Results

The results of our study stress the importance of alliance management capabilities, which play a catalyst role in the relationship between intangible resources and export performance contributing to filling the gaps identified by Papastamatelou et al. (2016) and Yang et al., (2019). In fact, investigations like the one from Rothaermel and Deeds (2004) on the relationship between alliance management capability and firm export performance has so far been inconclusive. Minimal empirical consideration has been given to the potentially varying effects of different alliance management capability components, limiting understanding of their complementary and/or substitutive roles in shaping inter partner attributes and export performance outcomes in international strategic alliances (Wang & Rajagopalan, 2015). On the other hand, Ritala et al. (2015) and Zhao et al., (2020) and Yao et al., (2020) proposed “knowledge disclosure,” arguing that knowledge sharing however may lead to the disclosure of technologies of organizations, negatively influencing their technological capabilities. According to Li et al. (2019) the choice of the alliance partners might have implications on how to achieve superior technology capabilities and performance and these relationships are yet to be investigated. Alliance management is a form of dynamic capabilities capable of transforming the organization capabilities and even technology, but literature shows that it is not sufficient per se: it needs other resource exchanges that have to be identified (Yang & Meyer, 2019).

Contributions

The objectives of this investigation are to investigate the influence of the alliance management capabilities on export performance, through the effects of knowledge sharing and technological capabilities. Therefore, the major contributions of this study are to fill the gap of the role of SMEs' alliance managerial capabilities to achieve superior export performance, establishing the chain of effects to achieve it. According to the literature, (Cacciolatti et al., 2020) alliance management capability contributes to the firm's competitive advantage by determining performance outcomes (Musarra & Katsikeas, 2016). This investigation is based on a sample of 387 Portuguese SMEs, and data was collected through a structured questionnaire. This research advances extant knowledge by transferring the concept of alliance management capability to the SME's context in a transition economy, highlighting its role as a critical capability of SME's, and explaining its implications for export performance, based on cooperation and knowledge sharing, and the effects they may have on technology.

CHAPTER V - STUDIES

To fill these gaps and take advantage of the investigation opportunities they raise, our overall objectives are to investigate the effects of high order dynamic capabilities on performance and competitiveness, through the effects of organizational capabilities like creativity, innovation, marketing, technological and managerial capabilities. On the other hand, verify the impact of the strategic alliances on dynamic capabilities. To address this objectives, 5 investigations were developed, testing:

INVESTIGATION 1

Dynamic Capabilities, Managerial and Marketing Capabilities and their Impact on the Competitive Advantage and Firm Performance

Published in International. Journal of Entrepreneurship and Small Business Indexed Scopus (2017)

Abstract:

The objective of this paper is to understand the impact of dynamic capabilities ((hereafter DC), in the context of exploration and exploitation ambidexterity, on competitiveness and performance, considering the mediating role of marketing and managerial capabilities. The investigation of these effects is performed considering the moderating role of entrepreneurial orientation ((hereafter EO) on the proposed relationships. A multi-group analysis was performed to understand the moderating role of entrepreneurial orientation. A questionnaire survey was developed and 387 valid questionnaires were collected from a sample of Portuguese SMEs. The results show that DC influence the companies' managerial and marketing capabilities, which in turn influence competitiveness and performance, and directly impact upon the marketing and managerial capabilities.

Keyword: Dynamic Capabilities; Exploration and Exploitation Capabilities; Managerial Capabilities; Marketing Capabilities; Entrepreneurial Orientation; Competitive Advantage and Performance.

Reference to this paper should be made as follows: Jorge Ferreira and Arnaldo Coelho (2017) “Dynamic capabilities, managerial and marketing capabilities and their impact on the competitive advantage and firm performance”, *Int. J. Entrepreneurship and Small Business*, Vol. 30, No. 4, pp.629–652.

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1. Introduction

Some scholars explain the cornerstones of competitive advantage from the resource-based view (RBV) (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984), but the increasing environmental volatility challenges the original propositions of the RBV as being static and neglecting the influence of market dynamism (Eisenhardt and Martin, 2000; Priem and Butler, 2001; Wang and Ahmed, 2007). Consequently, a number of dynamic concepts, such as absorptive capacity, integrative capacity, construct capacity, higher order capacity, and so on, have been advanced to explore and explain the route to success. In this respect, Pisano and Shuen (1997) extend RBV to the context of dynamic environment, proposing that companies should constantly adapt, reconfigure and renew their resources and capabilities to address environmental change, which is now the universal concept of DC.

However, the capabilities research field is still in its infancy (Di Stefano, Peteraf and Verona, 2010; Helfat and Peteraf, 2009; Li and Liu, 2014). Current studies focus on the definition, antecedents, nature, processes and consequences of DC (Winter and Zollo, 2002; Zott, 2003; Davidsson, Sapienza, Zahra, 2006; Teece, 2007; Helfat, 2007; Ambrosini, Bowman, and Collier, 2009; Easterby-Smith, Lyles and Peteraf, 2009; Katkalo, Pitelis, and Teece, 2010; Loasby, 2010), with sharp conflicts among them regarding the definitions and effects of DC and the role played by environmental dynamism. This growing research on DC provides successive and distinct definitions, which create confusion over the meaning and utility of the construct (Barreto, 2010; Di Stefano, Peteraf and Verona, 2010; Helfat and Winter, 2011). Some scholars believe that DC are the key to competitive advantage (Ambrosini and Bowman, 2009; Helfat and Peteraf, 2009; Helfat, 2007; Teece, 2007; Teece, 1997), while others argue that DC do not manifest the characteristics of heterogeneity, cannot be a source of competitive advantage (Arendt and Bromley, 2009; Eisenhardt and Martin, 2000), and that the role of DC is limited (Zott, 2003) and indirect (Ahmed and Wang, 2007). Many researchers claim that environmental dynamism plays an important moderating role between DC and competitive advantage (Berends, Romme and Zollo, 2010; Wu, 2010), while others believe that environmental dynamism is an important driving force of DC (Teece, 2007).

Previous studies in this area mainly focus on firms operating in developed markets and little is known about what DC are and their relationship with performance in transition economies. Since there are many differences between developed markets and transition economies, this narrow focus limits theoretical completeness and is a significant gap in the literature. At the same time, the question of whether and how DC affect performance is still open (Helfat, 2007). This relationship seems to be based on a chain of effects configuring an indirect relationship (Helfat and Peteraf, 2003; Helfat, 2007), but vagueness exists in this respect as little investigation has been performed on the mediating variables (Zott, 2003).

To address these research gaps, this study explores the definition and effects of DC on competitiveness and performance, using marketing and management capabilities as mediating variables. Simultaneously, these relationships are tested using the moderating role of entrepreneurial orientation (EO), which provides a specific context for the development of the proposed effects. The investigation is based on cross-sectional data, collected using a structured questionnaire, from 387 SMEs in Portugal.

2. Background and Research Hypotheses

2.1 Focus of dynamic capability

The working paper by Teece, (1990) is probably the first contribution explicitly developing the notion of DC. These researchers (1990 p.34) stated that “*our view of the firm is somewhat richer than the standard resource-based view ... it is not only the bundle of resources that matter, but the mechanisms by which firms learn and accumulate new skills and capabilities, and the forces that limit the rate and direction of this process*”.

The original definition of DC is a firm’s ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments (Teece, et al., 1997). To avoid the tautology of defining capability, from the process perspective, Eisenhardt and Martin (2000) propose a broad definition of DC that perceives such capabilities to be a set of specific and identifiable processes such as product development, strategic decision-making and alliancing. Drawing from the entrepreneurship perspective, Zahra

et al. (2006b) define DC as the abilities to reconfigure a firm's resources and routines according to the manner envisioned and deemed by its principal decision-makers.

As mentioned in the introduction, the DC view shares similar assumptions to the RBV and can be considered as an extension of RBV thinking, like other related theories, notably the knowledge-based view (Grant, 1996) and the core competence perspective (Hamel and Prahalad, 1990). These perspectives all consider the firm to be a bundle of heterogeneous and path-dependent resources and they all address the way in which this allows a firm to generate sustainable competitive advantage (Lockett and Thompson 2001). To use the expression generated by Hoskisson et al. (1999), they are all on the same side of the pendulum and their foundations can be traced back to Penrose (1952, 1959) and her theory of the growth of the firm.

Literature has contributed to the understanding and development of the concept of DC, promoting these capabilities as an important tool to sustain competitive advantage under dynamic environments, drawing guidelines for firms to build DC, analysing and/or examining their use in various industries and showing the evidence of successful implementations of DC through case studies. Both empirical and conceptual contributions offer valuable knowledge as they identify, develop, demonstrate, examine and/or explain DC in various settings. The research has taken place in various industries such as high-tech (Helfat and Peteraf, 2003), strategic management (Pisano and Shuen, 1997; Eisenhardt and Martin, 2000; Ambrosini and Bowman, 2009; Helfat and Peteraf, 2003; Winter, 2003; Li and Zhou, 2010), knowledge management and organisational learning (Zollo and Winter, 2002; Marsh and Stock, 2006; Ho and Tsai, 2006).

In the DC perspective, firms need to continuously build, integrate and reconfigure their skills and abilities to adapt to their environment and sustain competitive advantage (Eisenhardt and Martin, 2000). The most important capabilities in the area of innovation are exploitation and exploration (Atuahene-Gima, 2005; Wang and Li, 2008). Exploitation concerns the refining of existing capabilities and exploration the challenge to existing ideas (March, 1997; O'Reilly and Tushman, 2008).

Drawing on the extended RBV (Arya and Lin, 2007; Yang and Li, 2011; Das and Teng, 2000), competence exploration and competence exploitation are developed through investing resources internal to the organisation and absorbing resources from the external network. In other words, the development of either competence exploration or competence exploitation reflects an organisational attitude that is demonstrated in its

investment decisions and its resource allocation decisions. Based on March's (1991) definitions, *competence exploration* reflects the dedication of venture resources to efforts to acquire entirely novel knowledge, skills and processes, all of which are new to the firm and depart from existing knowledge. This novel knowledge increases the firm's potential to add variety, to experiment and to explore flexibility and novelty in its product innovation (Raisch and Birkinshaw, 2008). The intention is to focus on offering new designs, creating new markets and developing new distribution channels (Yang and Li, 2011). *Competence exploitation* reveals that a firm invests its resources in the reinforcement of existing knowledge, skills, processes and structures that follow the same trajectory as the old one. This knowledge may attain greater efficiency and reliability in the innovation of the existing product (O'Reilly and Tushman, 2007; Raisch and Birkinshaw, 2008; Atuahene-Gima and Murray, 2007).

A firm venturing resources on exploration may expand its ability to accommodate new variants of technology and marketing information into skills and related routines, and then in turn, its product innovation may increase, and novel marketing strategies may be obtained (Li and Yang, 2011). For instance, a firm can use these new insights to generate novel marketing strategies and form new and different alternatives about how distribution channels should be configured (Kyriakopoulos and Moorman, 2004). Exploitation centers on short-term success but looks also for long-term viability, whereas exploration focuses on long-term outcomes but neglects immediate ones (Atuahene-Gima, 2005; March, 1991). Researchers theorize that managing exploitative and explorative capabilities is the solution to the problem of balance between current and future viability (Eisenhardt and Martin, 2000).

Although prior research clearly highlights the importance of exploitative and explorative capabilities in firm performance, the majority of studies contemplate technology and product development capabilities (e.g., Atuahene-Gima, 2005), thus disregarding other possible domains (Lavie and Rosenkopf, 2006). This rather exclusive focus on technology and product development limits the understanding of the role of exploitative and explorative capabilities in the successful launch and diffusion of innovations.

2.2 The Role of Marketing and Managerial Capabilities

2.2.1 The Impact of Exploration and Exploitation Capabilities on Managerial Capabilities

Managerial capabilities are defined as those management capacities, expertise and processes possessed by firms, and that are drawn to execute programs and activities to achieve superior performance (Graves and Thomas, 2006). Managerial capability is, therefore, “*the degree to which a firm’s corporate management team utilizes its team-embodied complementary yet heterogeneous skills, abilities, expertise and knowledge base that have been developed over time to generate rents*” (Acquaah, 2015, p.32). Hence, managerial capabilities include the human, social and cognitive abilities, used to deploy, integrate, and reconfigure tangible and intangible organizational resources. They are useful in planning, executing, and controlling processes and strategic actions. Adner and Helfat (2003) suggest that the characteristics of a firm’s top management team are a major contributor to the development of managerial capabilities that ensure sustained competitive advantage.

The possibility that individuals can undertake both exploitative and explorative tasks creates several challenges that need to be addressed. Ambidextrous managers must manage contradictions and conflicting goals (Smith and Tushman 2005), engage in paradoxical thinking (Birkinshaw and Gibson, 2004), and fulfil multiple roles (Floyd and Lane, 2000). Amabile (1996) suggests that individuals who focus on creativity and exploration differ, even in personality, from those who emphasize implementation or exploitation activities. Gupta, (2006) conclude that it is challenging for an individual to excel at both exploitation and exploration. Consequently, the following hypothesis is proposed:

H1: There is a positive relationship between exploitation capabilities and management capabilities.

H2: There is a positive relationship between exploration capabilities and management capabilities.

2.2.2 The Impact of Exploration and Exploitation Capabilities on Marketing Capabilities

According to Bush, Orr and Vorhies, a marketing capability is the “*accumulated knowledge and skills of the firm’s marketing employees that are utilized to create*

customer satisfying outcomes” (2011, p. 567). A marketing capability is further defined as the repeated patterns of a firm to effectively undertake its market-related needs (Chaiy Chang and Park, 2010). Hence, it represents the accumulated knowledge, skills, and expertise embedded in the marketing activities and competitive strategy and is reflected in a firm’s organizational processes and performance (Chang et al., 2010). Vijande (2012) defines marketing capabilities as complex processes that involve combining market knowledge and organizational resources to generate added value. Marketing capabilities aim to fulfil the market-related needs of a business, allowing firms to provide superior added value and to adapt better to changing market conditions (Vorhies, 1998).

Marketing capabilities are developed when the firm’s marketing employees repeatedly apply their knowledge and skills (an intangible resource) to solving the firm’s marketing problems (Vorhies and Morgan, 2005). Often, in the course of solving these problems, intangible resources are combined with tangible resources (assets). Marketing capabilities are not resources in and of themselves but are the integrative processes by which resources are applied to add value to the resource inputs (Day, 1994; Grant, 1996).

The degree of exploration is, therefore, determined by the aggregate effect of the changes (Voss, 2012). Our concepts of exploitation and exploration relate to the prior classifications of project newness or innovation radicality that appear in the product development literature. Henard and Szymanski (2001), for example, review concepts associated with marketing synergy, which they define as congruency between the existing marketing skills of the firm and the marketing skills needed to execute a new product initiative successfully. According to Voss (2012), the strategies adopted may improve (exploit) or change (explore) prior marketing approaches rather than ensure the congruence or fit of skills to proposed strategies. Consequently, the following hypothesis is proposed:

H3: There is a positive relationship between exploitation capabilities and marketing capabilities.

H4: There is a positive relationship between exploration capabilities and marketing capabilities.

2.2.3 The Impact of Managerial Capabilities on Marketing Capabilities

According to Ho (2008), a managerial capability refers to an organization's skills, knowledge and experiences, which are used to handle difficult and complex tasks in management and production (Choi and Shepherd, 2004). Marketing capabilities have been recognized as key in gaining and sustaining a competitive advantage (Corso, 2006). Hsu et al. (2007) identify four factors which affect the adoption of marketing capabilities: information technology, complexity of management and marketing, formal documentation status, and knowledge acquisition mechanisms. A managerial capability appears when skills are needed to explore markets, understand customers, and deal with people, meaning the development of marketing capabilities (Acquaah and Agyapong, 2015). Consequently, the following hypothesis is proposed:

H5: There is a positive relationship between managerial capabilities and marketing capabilities

2.2.4 Marketing Capabilities and their Impacts on Competitive Advantage

The capability-based theory suggests that a firm can achieve competitive advantage through distinctive capabilities possessed by the firm, and that the firm must constantly re-invest to maintain and expand its existing capabilities in order to inhibit imitability. A firm's marketing capability is reflected in its ability to differentiate products and services from competitors and build successful brands and firms with strong brand names that can charge premium prices in foreign markets to enhance their profitability (Weerawardena, 2003; Vorhies and Morgan, 2005). Capability creates no competitive advantage if it is easily achieved (imitated) by one's competitors. Thus, the potential sources of competitive advantage of a firm are those capabilities that are difficult to develop and replicate (Buble, 2003). Competitive advantage may come from any of the components of an offering, but if the synergy exists, the combination will be stronger than the individual parts.

According to Vorhies (1998), marketing capabilities aim to fulfil the market-related needs of the business, allowing firms to provide superior value and to adapt better to changing market conditions. Marketing capabilities arise when individuals use the accumulated

knowledge of clients, markets and environment; their experience; and the company's resources to resolve commercial problems, to generate higher value for the organization's clients and to boost competitive advantage (Shih and Tsai, 2004; Vorhies, 1998; Weerawardena, 2003). Therefore, the ability of generating superior customer value strongly depends on the availability of distinctive marketing capabilities (Day, 1994; Guenzi and Troilo, 2006; Narver and Slater, 2000). As a result, marketing capabilities allow firms to reach competitive advantages based on higher customer value, which ultimately facilitates above-average returns (Shih and Tsai, 2004; Weerawardena, 2003; Vorhies, 1998). Finally, marketing capabilities have been recognized as a key factor for gaining and sustaining a competitive advantage (Corso, 2006). Consequently, the following hypothesis is proposed:

H6: There is a positive relationship between marketing capabilities and competitive advantage.

2.2.5 Marketing Capabilities and their Impacts on Performance

The relationship between marketing capabilities and firm performance has received increased attention in recent years (Krasnikov and Jayachandran, 2008; Morgan et al., 2009; Murray et al., 2011). Overall, the findings of most of the studies support a positive relationship between capabilities and performance, which is consistent across diverse research contexts (Jayachandran and Krasnikov, 2008). The conceptual rationale for this relationship is based on the recognition that capabilities encompass skills that are deeply embedded in organizational routines and practices and represent knowledge that has been accumulated over the years. As a result, capabilities are difficult to trade, imitate, or replicate, offering a sustainable source of competitive advantage (Day, 1994; Pisano et al., 1997). Moreover, as previously discussed, marketing capabilities enable firms to effectively implement strategic orientations which are designed in order to match the market conditions encountered, and achieve specific performance objectives (Mason, Morgan and Vorhies, 2009). The interaction between organisational culture and marketing capabilities is characterized by asset interdependency that makes it difficult for competitors to disentangle. Hence, possession of positive organizational culture, marketing capabilities, and the presence of supportive organizational processes are key sources of competitive advantage and performance outcome (Amit and Schoemaker, 1993; Morgan et al., 2012).

H7: There is a positive relationship between marketing capabilities and performance.

2.2.6 The Impact of Competitive Advantage on Performance

Competitive advantage can be conceptualised as a superior marketplace position that captures the provision of superior customer value and/or the achievement of lower relative costs, which results in market share dominance and superior financial performance (Hunt and Morgan, 1995). Much of the past research uses superior financial performance or ‘rent’ as a result or an indicator of competitive advantage (Porter, 1990). Sustained competitive advantage was believed to be simply a competitive advantage that lasts a long period of calendar time (Jacobson, 1988; Porter, 1990). Being more competitive leads to a sustainable higher performance. Consequently, the following hypothesis is proposed:

H8: There is a positive relationship between competitive advantage and performance.

3.The Moderating role of the Entrepreneurial Orientation (EO)

3.1 What is EO?

EO refers to “*the processes, practices, and decision-making activities that lead to new entry*” [Lumpkin and Dess, (1996), p.32]. It is revealed through firm-level characteristics as summarized by Miller (1983, p. 65): “*An entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovations, beating competitors to the punch*”. According to Hult and Ketchen (2001, p.78), the EO reflects a firm’s propensity to engage in “*the pursuit of new market opportunities and the renewal of existing areas of operation*”. It promotes values such as being highly proactive toward market opportunities, tolerant to risk and receptive to innovations (Lumpkin and Dess, 1996; Matsuno et al., 2002; Yim and Zhou, 2005). Accordingly, the ability to initiate change, take risks, and innovate distinguishes entrepreneurial firms (Naman and Slevin, 1993) as well as their internationalization strategies because “entrepreneurial behavior cannot follow the gradual and controlled process of conventional stage theories” (Ratten, *et al.*, 2007, p. 366). EO should be distinguished from entrepreneurship, which relates to new business entry and is concerned primarily with questions such as “*What business do we enter?*” and “*How do we make the new business succeed?*”

3.2 The Moderating Role of the EO on Managerial Capabilities

The easier firms can acquire resources, the stronger their EO (Fang, 2009). This means that EO requires the utilization of large quantities of resources, so having access to such quantities strengthens EO. Lee et al. (2007) found a moderating relationship between EO and management capability, thereby also implying a relationship between entrepreneurial resources and EO.

3.3 The Moderating Role of the EO on Exploration and Exploitation Capabilities

Although it may seem that EO merely encourages the search for new options in order to benefit from unexplored opportunities, exploitative capabilities may also find a propitious setting here. Such capabilities involve small changes (i.e., modifications to and improvement of existing products) that can result in the evolution of a firm by virtue of embodying a more incremental type of innovation (Atuahene-Gima, 2005; Yalcinkaya et al., 2007). Hence, EO can provide a favorable context for product development and exploitative capabilities to grow.

Entrepreneurial firms are prone to embracing new ideas and using new methods (Barczak et al., 2009; Li et al., 2010), and more willing to exchange ideas and adopt novel perspectives (Brockman and Morgan, 2003). They also place emphasis on the need to explore and introduce breakthrough innovations (Avlonitis and Salavou, 2007; Yim et al., 2005). The ability to initiate change, take risks, and innovate that characterizes entrepreneurial firms, enables them to pursue the development of products that are not only ahead of competition, but also ahead of the recognition of existing customers (Zhou et al., 2005; Hou, 2018).

3.4 The Moderating Role of the EO on Marketing Capabilities

According to Halim (2014), entrepreneurship may be measured or identified by innovativeness, proactiveness, aggressiveness in competing, and risk-taking. These characteristics also stimulate market research, distribution, product development, communication/promotion, and marketing management, meaning that companies with an EO will also possess enhanced marketing capabilities. Capability-base theory states that entrepreneurialism is important in achieving competitive advantage.

Through empirical investigation, Wiklund (1999) demonstrated EO to moderate firm performance, and prior to that, Covin and Slevin (1989) had concluded that EO, which depends upon the organizational structure, positively affects firm performance in an environment with adversarial competition. Smart and Conant (1994) asserted that EO may exert a strong moderating effect on a firm's distinctive marketing capabilities, and subsequently, Tzokas et al. (2001) noted that marketing techniques are uniquely related to overall company performance.

3.5 The Moderating Role of the EO on Competitive Advantage and Performance

The literature describes EO as an important factor in determining firm performance (Lumpkin and Dess, 1996; Wiklund and Sheperd, 2005), showing that firms with strong EO have the capability to exploit market opportunities (Sheperd and Wiklund, 2003), and can respond to the challenges of competition, and the dynamics of the environment (Lumpkin and Dess, 1996), delivering new and innovative products (Akhtar *et al.*, 2015). The direct effect of EO and positive firm performance has been demonstrated in many studies (see for example, Covin and Slevin, 1989; Dess and Lumpkin, 1996; Wiklund, 1999; Coulthard and Loss, 2006; Naldi, 2007; Li, 2009; Harsanto and Roelfsema, 2015; Palit and Sarker, 2015). EO has also been studied as a mediator variable, suggesting the importance of an entrepreneurial environment (Harsanto and Roelfsema, 2015).

The model proposed by Zahra et al (2006) indicates that a firm's entrepreneurial activities are the starting point for the conception, development, configuration, and maintenance of DC. Lee, (2008) suggest that DC for innovation require managerial practices that include the deployment of entrepreneurial resources, relational and decision support. They propose that DC are not routines, but comprise managerial practices involving the selection of entrepreneurs who take on the primary task of assembling and integrating the resources needed to create innovations.

Consequently, an EO creates the context where exploitation and exploration give birth to new capabilities and skills, thus moderating the proposed relationships.

The investigation model resulting from the set of developed hypotheses is as follows.

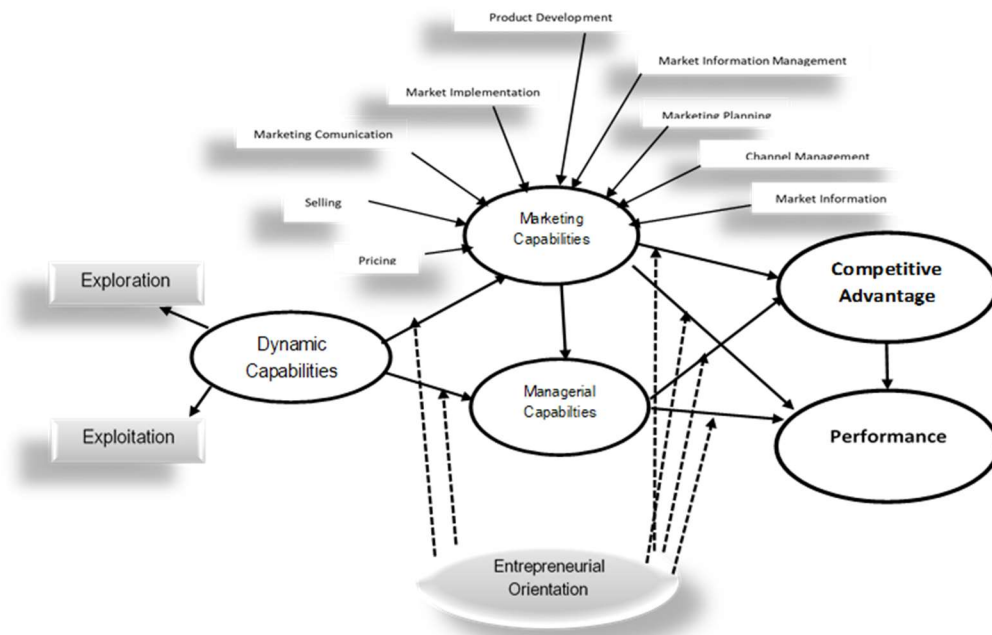


Figure 1 - The conceptual model

4. Method

4.1 Sample and data collection

In order to test the proposed investigation model and the research hypotheses, data was collected via a structured questionnaire, using a snowball approach. Using information obtained from SME business associations, a total of 387 questionnaires were distributed to Portuguese SMEs and a key informant in each company was contacted with a request to complete the questionnaire. A total of 387 were returned. Of these, 28% were from companies with less than 20 employees, 42% had between 20 and 50, 8% had between 50 and 100, and 22% between 100 and 200 employees. Forty three percent (43%) were share companies, 42% private limited companies, and 15% single shareholder companies. In terms of lifespan, 25% were less than 10 years old, 65% between 10 and 20 years, 7%

between 20 and 50 years, and 3% more than 50 years. The respondents were scattered throughout the country with no sector being specially represented.

4.2 Measures

In order to operationalize the variables, we conducted a literature review and adapted scales used in existing studies, changing and adapting the vocabulary to ensure their greater perceptible for respondents.

Marketing Capabilities

Marketing capabilities were measured with eight dimensions, which were adapted from the work of Harker and Vorhies (2000) who suggested the following six components of the construct: ability to develop marketing information about specific customer need; ability to offer competitive pricing of the firm's products and services and monitoring prices in the market; ability to design products that can meet customer needs; skills in focusing on customer recruitment and retention; ability to control access to distribution channels; and providing better after-sales-service capabilities. The eight dimensions developed from these six components and their measurement were as follows:

Table 1 - Scales

Dimension	Items of scales
Pricing	<i>Using pricing skills and systems to respond quickly to market changes</i>
Product development	<i>Ability to develop new products/services</i>
Channel management	<i>Strength of relationships with distributors</i>
Marketing communication	<i>Developing and executing advertising programs</i>
Selling	<i>Giving salespeople the training they need to be effective</i>
Market information	<i>Gathering information about customers and competitors</i>
Marketing planning	<i>Marketing planning skills</i>
Marketing implementation	<i>Allocating marketing resources effectively</i>

Managerial Capabilities

Managerial capability was measured with six items, which were adapted from Spanos and Lioukas (2001), and Merrilees et al. (2010). Items like “*Has better operational management expertise*”, were used.

Dynamic Capabilities – exploration and exploitation

Dynamic Capabilities - exploration and exploitation - were measured using two dimensions, with five items each, competence exploration and competence exploitation, suggested by Atuahene-Gima (2005). Items like “*Acquired manufacturing technologies and skills entirely new to the firm*” were used as well as “*Upgraded current knowledge and skills for familiar products and technologies*”.

Competitive Advantage

Competitive advantage was measured as suggested by Thatte (2007) and Vokurka et al. (2002), and included cost, quality, dependability, and speed of delivery as some of the critical competitive priorities. Items like “*Offer prices as low as or lower than our competitors*” were used.

Performance

Performance was measured based on Morgan, (2003). Two dimensions of the construct were involved, each having four items that showed on the exploratory and then on the confirmatory factor analysis, to load on one simple factor. The efficiency with which the firm generates cash flows and profits may also be an important accounting indicator of financial performance. This is typically captured in “*Return on ...*” or “*re-investment*”

type measures that express profit and cash flow as a ratio of some measure of the capital employed or sales revenue of the firm as well as the growth on sales and on market share.

4.3 The Model

All the items were measured on a seven-point Likert scale (1=strongly disagree to 7=strongly agree). Confirmatory factor analysis was used to assess the psychometric properties of the scales and the measurement model fit, using AMOS 21. The final model shows a good fit (IFI=0,928; TLI=0,921; CFI=0,927; RMSEA=0,058; CMIN/DF=2,289).

The dimensions of marketing capabilities showed a high correlation and were transformed in a second order variable. Composite reliability (CR) and the average variance extracted (AVE) were computed. All the scales showed values above 0.8 on CR and above 0.7 on AVE, which are in line with the recommendations (Hair, Anderson, Tatham and Black, 2005). Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always smaller than the variance extracted for correspondent constructs (Fornell and Larker, 1981; Shiu et al., 2011) thereby confirming the discriminant validity.

Table 2 The square correlations, Cronbach's alpha, composite reliability and variance extracted

	<i>X1</i>	<i>X2</i>	<i>X3</i>	<i>X4</i>	<i>X5</i>	<i>X6</i>	<i>X7</i>	<i>CR</i>	<i>AVE</i>
Exploitation	0.94							0.89	0.72
Exploration	0.63	0.89						0.92	0.78
Managerial capabilities	0.60	0.50	0.88					0.95	0.83
Marketing capabilities	0.42	0.43	0.48	0.88				0.91	0.76
Competitive advantage	0.55	0.37	0.63	0.49	0.90			0.91	0.76
Performance	0.37	0.21	0.55	0.33	0.94	0.90		0.93	0.76

Notes: The principal diagonal presents Cronbach's alpha; CR = composite reliability; AVE = average variance extracted

4.4 Common Method Bias

When self-administered questionnaires are used a common variance bias problem can emerge or increase (MacKenzie et al., 2011). According to Podsakoff and MacKenzie (2003), the common method variance (CMV) tests will help in identifying the existence of variables that can cause measurement errors and systematic biases in the estimation of the relationships between constructs.

Based on the suggestions by Podsakoff and Organ (1986), a Harman's single factor test and a common latent factor (CLF) analysis were performed to capture the common variance among all observed variables in the model. The Harman's test showed that any factor could explain more than 23% of the variance and there were 11 factors with eigenvalues greater than 1, explaining 73% of the total variance. A confirmatory factor analysis was conducted restricting all items of the model to load on a common single factor (Podsakoff, 2003). The resulting fit indices show the model did not provide a good fit for the data: CMIN/DF=5.6; IFI=0.555; TLI=0.535; CFI=0.540.

Table 3
Results – Structural Model
GLOBAL (n=387) Low EO (n= 189) High EO (n=198)

Hip.	Relationship			SRW	C.R.	P	SRW	C.R.	P	SRW	C.R.	p	Sup./Not Sup.
H1	mg	<---	Exoi	,256	3,782	***	,162	1,360	,174	,221	2,619	,009	Supported
H2	mg	<---	Exro	,233	3,497	***	,319	2,613	,009	,131	1,615	,100	Supported
H3	MC	<---	Exro	,085	1,833	***	,101	1,146	,126	,040	,705	,240	Supported
H4	MC	<---	Exoi	,087	1,830	***	,010	,123	,451	,066	1,114	,132	Supported
H5	MC	<---	Mg	,826	11,815	***	,873	7,723	***	,845	8,666	***	Supported
H6	com	<---	MC	,341	5,954	***	,187	2,312	,021	,283	3,356	***	Supported
H7	PF	<---	MC	,474	7,494	***	,279	3,061	,002	,556	5,992	***	Supported
H8	PF	<---	Com	,359	6,173	***	,462	4,844	***	,200	2,483	,013	Supported

5. Findings and Discussion

Amos 21.0 was used to perform CFA and SEM to test the proposed hypotheses. The final model shows a good fit (IFI=0,911; TLI=0,908; CFI=0,911; RMSEA=0,063; CMIN/DF=2,515). A multi-group analysis was performed to test the moderation effects of EO, considering two groups: the low EO group, with 189 respondents; and the high EO group with 198 respondents. A chi square test was performed to compare the two groups and the results show a significant difference between them. The differences

between the unconstrained model (chi square = 2704; D.F. = 1304) and the fully constrained model (chi square = 2758; D.F. = 1341) show that the models are different (chi square = 54; D.F. = 37; $P \leq 0.05$; CV=52.192), and that the moderation effects are significant.

Dynamic Capabilities and Managerial Capabilities

Exploitation and exploration have a positive impact on managerial capabilities, thus supporting H1 and H2. According to prior investigation, exploitation capabilities are seen when a firm invests its resources into the reinforcement of existing knowledge, skills, processes and structures that follow the same trajectory as the old ones. At the same time exploration capabilities are evident in a firm's dedication of venture resources to the acquisition of entirely novel knowledge, skills and processes, all of which are new to the firm and depart from existing knowledge. The relationship with managerial capabilities is positive and the results support the proposed hypotheses. This means that DC gives support to the development of managerial capabilities capable of increasing efficiency and, therefore, contributes to superior performance (Graves and Thomas, 2006; Hsu and Sabherwal, 2012). Zahra et al. (2006b) define DCs as the abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision-makers which is in line with these findings. These results related to exploration are valid only for the group with higher EO which shows that an entrepreneurial culture makes the role of exploitation more intense and more effective, developing the managerial capabilities (Lee and Kelly, 2008). In the case of exploitation, these results are significant for both groups, but the impact is higher in the first group (0.319 against 0.131). Apparently, when there is less EO, explorative capabilities produce a higher impact on managerial capabilities. Perhaps, a less entrepreneurial culture lacks resources and managerial capabilities. In this case, an explorative approach will produce dramatic changes or have significant influence on the perceptions related to the managerial capabilities.

Dynamic Capabilities and Marketing Capabilities

For its part, exploration and exploitation have a positive impact on marketing capabilities, supporting H3 and H4. These results are in line with the research provided by Hoang and Rothaermel (2010), Voss et al. (2008) and March (1991), related to the use of venture resources to promote a better utilisation of existing resources as well as to acquire entirely new knowledge and resources. This novel knowledge increases the firm's potential to add variety, to experiment and to explore flexibility and novelty in its marketing capabilities. The relationship with the marketing capabilities is the evident intention of these firms to focus on offering new designs, creating new markets and developing new distribution channels (Yang and Li, 2011), giving support to the proposed hypotheses. These results are significant for the overall sample but not for individual groups, showing that the impacts of DC on marketing capabilities are very important and independent of the entrepreneurial level of the internal culture, always contributing to increase these capabilities (Voss, 2012).

Managerial Capabilities and Marketing Capabilities

There is a positive relationship between managerial capabilities and marketing capabilities, therefore supporting H5. According to the literature, a managerial capability is defined as the management capacities, expertise and processes in the custody of firms that are drawn to execute programs and activities to achieve superior performance (Graves and Thomas, 2006; Hunt and Madhavaram, 2012), marketing capabilities being critical. The increasing intangible nature of an offering goes further than the service encounter. All marketers must remember to design and deliver the non-tangible product benefits that customers inevitably demand. This relationship is statistically significant for both groups, indicating that managerial capabilities are important per se and their impact on marketing capabilities is independent of the entrepreneurial context. Lee and Kelley (2008) propose that DC are not routines, but comprise managerial practices involving as a priority, the selection of entrepreneurs who take on the primary task of assembling and integrating the resources needed to create innovations.

Marketing Capabilities and Competitive Advantage

There is a positive relationship between marketing capabilities and competitive advantage, thereby supporting H6. According to Bush et al. (2011, p.42), a marketing capability is the "accumulated knowledge and skills of the firm's marketing employees that are utilized to create customer satisfying outcomes" and marketing capabilities have been recognized as key factors for gaining and sustaining a competitive advantage (Corso

et al., 2006). In general, our results are in line with the literature. However, this impact is more significant for high EO and less for low EO (srw = 0.283 against 0.187). Consistent with these results, Smart and Conant (1994) assert a strong moderating relationship between EO and a firm's distinctive marketing capabilities.

Marketing Capabilities and Performance

There is a positive relationship between marketing capabilities and performance. The relationship exists in the terms suggested by Krasnikov and Jayachandran (2008) and Murray et al. (2011). Marketing capabilities enable firms to effectively implement strategic orientations which are designed to match the prevailing market conditions and achieve specific performance objectives (Mason et al., 2009). According to Tzokas et al. (2001), marketing techniques are mostly related to overall company performance. Furthermore, these results are significant for both groups showing that the impact of marketing capabilities is independent of the entrepreneurial context. However, this impact is higher (srw = 0.556 against 0.279) in the second group (high EO) showing that an entrepreneurial orientation is the context where marketing capabilities may contribute more to the overall performance.

Competitive Advantage and Performance

There is a positive relationship between competitive advantage and performance and H8 is supported. Competitive advantage seems to have a significant impact on performance. According to the literature, competitive advantage can be conceptualized as a superior marketplace position that captures the provision of superior customer value and/or the achievement of lower relative costs, which results in market share dominance and superior financial performance (Hunt and Morgan, 1995). However, this relationship is statistically more significant for the group with low EO (srw = 0.462, against 0.200) and lower for the group with high EO. In a context of a lower EO, gains on competitiveness have more impact on performance. Apparently, firms with higher EO may have higher levels of competitiveness and performance so the marginal gains on competitiveness may have less impact on performance.

Previous investigations showed that EO impacts on competitiveness and firm performance (Covin and Slevin, 1989; Smart and Conant, 1994; Lumpkin and Dess, 1996; Loss and Coulthard, 2006; Naldi et al., 2007; Li and Mitchell, 2009) even if sometimes these impacts are indirect. In the present investigation, EO creates the context

where exploitation and exploration give birth to new capabilities and skills, thus moderating the proposed relationships.

6. Conclusions, Limitations and Future Investigation

The main goals of this research were to evaluate the impacts of DC (exploitation and exploration) on competitive advantage and performance, mediated by marketing and managerial capabilities. The moderating role of EO was tested to provide a specific context where these relationships could take place. The results are drawn from a cross-sectional investigation of 387 Portuguese companies.

The mediating effects of managerial and marketing capabilities were used to better understand the links and the way the effects from DC are transmitted to performance and competitiveness. The character of DC is rather cultural (Chen and Lee, 2009) and hence their impacts on performance may be preferentially indirect. The final model does not show the direct effects that were always revealed as being insignificant. These were removed from the model.

Dynamic capabilities, managerial and marketing capabilities

The results show that DC has an indirect effect on performance and competitiveness, via managerial and marketing capabilities. These last capabilities act like an instrument from DC (Tan and Sousa, 2015) to help companies be more competitive and perform better. Marketing capabilities exert a significant influence both on competitiveness and performance while management capabilities may reinforce the effects of DC on marketing capabilities.

Apparently, an EO creates the context where exploitation and exploration give birth to new capabilities and skills, thus moderating the proposed relationships. Exploration produces superior results in less entrepreneurial environments while exploitation produces better results where there is a greater EO. Apparently, exploration acts to ignite companies' capabilities. Simultaneously, marketing capabilities have superior impacts on competitiveness and performance in the presence of a higher EO. Competitiveness is more important for performance when entrepreneurial orientation is lower.

Contributions

This research helps to close the gap in the literature on the relationships between DC and competitiveness and hence performance, as it shows the importance of integrating the

management and marketing capabilities in a context of uncertainty and environmental turbulence, in a transition economy.

The investigation model developed and tested in the study shows how DC use their management and marketing expertise to impact favorably on competitiveness and performance. Resource-based theory suggests that better performance results from the interaction between a firm's knowledge resources and capabilities (Morgan et al., 2009). This study traces the chain of effects in this respect, showing how DC are transformed into competitiveness and performance (Helfat and Peteraf, 2003; Helfat et al., 2007).

Consequently, the investigation increases knowledge in the field of DC, exploring how they influence a firm's overall performance and highlighting the role of marketing and managerial capabilities. It does this in the context of Portuguese SMEs and highlights how DC with a more cultural character (Chirico and Nordqvist, 2010) exerts their influence on the overall performance of a company. Hence, the study's results reveal interesting strategies for companies wanting to strengthen their managerial and marketing skills. A supportive culture based on DC (explorative and exploitative) and combining short-term and long-term approaches, has a significant and important impact on the management and marketing capabilities, which, in turn, contribute to the performance and competitiveness of SMEs (Coradi and Heinzen, 2015).

Limitations and Future Research

This study has some methodological limitations affecting its potential contributions. As a cross-sectional study that captures one image in time, its ability to identify strict causality between variables is limited. Furthermore, the results are based on log collected from a key respondent, rather than broader actual data.

As for recommendations for future work, the model could be tested introducing variables like entrepreneurial and market orientation, both as mediators or moderators. Innovation and new product success are relevant outcomes which could be tested. The impacts of DC on internationalization of SME's are an important topic to be investigated as entrepreneurial behavior and resources are quite different among entrepreneurial companies (Ratten et al., 2007; Ratten, 2014). Finally, the role of institutional support has been suggested by Ratten (2014) as a future investigation topic that could be used as a moderator on the suggested relationships.

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INVESTIGATION 2

The influence of Market and Learning Orientation on Competitive Advantage, Managerial and Marketing Capabilities based on the dynamic capabilities perspective: the role of Ambidexterity

Abstract:

Purpose -The objective of this paper is to analyze the impact of Market and Learning Orientation on the Competitive Advantage, considering marketing and managerial capabilities as mediators. The investigation of these effects is performed considering the moderating role of ambidexterity on the proposed relationships.

Design/methodology/approach - This investigation proposes a theoretical model tested using a structural equation modelling (SEM). Multi-group analysis is used to understand the moderating role of Ambidexterity. A total of 387 valid questionnaires were collected from a sample of Portuguese SMEs.

Findings – Results show that Market and Learning Orientation seem to have a significant influence on competitive advantage through the effects of marketing and managerial capabilities, in a relationship that, apparently, is rather indirect.

Research limitations/implications – This study presents some limitations affecting its potential contributions. Being a cross-sectional study that depicts one image in time, to capture the dynamics of an incremental process via developmental stages, becomes quite difficult. Furthermore, the results are based on data collected from a single key respondent.

Practical implications – This study has important implications for managers. It highlights the necessity of firms to develop a superior strategic orientation of all their members and to invest in better resources and consequently superior capabilities as a way of achieving high levels of competitive advantage.

Originality/value - This investigation presents the chain of effects between the combined effects of market and learning orientation on the managerial and marketing capabilities and through them, on competitiveness. Additionally, it introduces the contextual moderating effects of ambidexterity, investigating how it might affect the proposed relationships.

Keywords: Market Orientation; Learning Orientation; Marketing Capabilities; Managerial Capabilities; Ambidexterity; Competitive Advantage

Paper type: Research paper

1. Introduction

In recent years, the management environment and the customers' preferences have become more dynamic and complex than ever before. In terms of the market orientation and learning orientation linkage, Farrell (2000) suggests that once an organization becomes market oriented, it begins to adopt and implement a learning orientation. Market orientation is a major cultural foundation of learning organizations, so the establishment of market orientation inherently implies being a learning-oriented organization. Baker and Sinkula (1999) suggest that a strong learning orientation should practice a strong market orientation. Specifically, Sinkula, Baker, and Noordeweir (1997) argue that a learning orientation will directly result in an increase in market information generation and dissemination. Matsuno et al. (2002) further suggest that a higher market orientation tends to lead to higher learning-orientation. Therefore, market orientation needs to be complemented by an appropriate climate for learning (Slater & Narver, 1995). In this sense, without a strong learning orientation, market-oriented behaviors are less likely to promote a rate of improvement or organizational performance that exceeds that of competitors (Wilson, & Liguori 2022). Slater and Narver (1995) further argue that without the ability to perform applied learning, market orientation might lose part of its power. Therefore, small and medium enterprises (SMEs) are demanded to develop market and learning orientation in their organizations, in order to synchronize with the changing of business environment. Market and learning orientation might be seen as part of a culture or a group of behaviors and processes to create superior customer value and competitiveness (Narver and Slater, 1990; Wahyuni & Giantari, 2022; Sawaeen, & Ali 2020).

Market and learning orientation have always been very important for performance and competitiveness (Cho & Lee, 2020), but the way to get there has not always been consensual, neither their combined effects. Mauludin et al., (2013) argue that with the

learning orientation, fresh knowledge and information will form and flow, and can then be used to obtain new information from external sources in a virtuous circle. Haryanto, Haryono, and Sawitri (2017) show that learning orientation makes companies learn faster in improving skills and knowledge so that company performance will improve. A good learning orientation will increase the company's response to market and customer conditions (Frank, Kessler, Mitterer, & Weismeier-Sammer 2012). At the same time, the dynamic capabilities were forgotten on this path, in their mediating role (Abbas et al. 2019). These market and learning oriented predictions occur at the intersection of important dynamic capabilities: market learning is translated into forecasts that support planning and implementation, new product development, pricing, and strategic decision-making (Morgan, 2012; Vorhies & Morgan, 2005). Market learning not only plays a critical role at this intersection (Cepeda & Vera, 2007) but it is also identified as one of the most significant areas of dynamic and marketing capabilities improvement (Morgan, 2012; Randhawa, et al., 2021). Therefore, dynamic capabilities are the support and engine that companies can use to achieve their goals in the context of learning and the market orientation, that suggests firms that operate in active markets need to obtain, integrate, reconfigure, and release resources to create a long-term competitive advantage (Girod & Whittington, 2017; Lin & Wu, 2014). In this sense, several previous studies indicated better performer in some companies when they focus on market orientation with particular emphasis on flexibility and speed of response (Jin et al., 2020; Lee and Tsai, 2005; Lin et al., 2008; Hernández-Linares et al., 2021; Yu et al., 2019).

Past research shows that market orientation and learning orientation are part of an effective strategy for surviving in a competitive environment in that it provides firms with a sustainable competitive advantage (Joensuu-Salo, 2018; Iyer et al., 2019; Zhou et al., 2022), its impact in the SMEs context remains largely unexplored. There is still a gap in the literature that explores the interplay of market and learning orientation and marketing capabilities to produce superior performance and competitiveness. The effect of market orientation and marketing capability on firm performance within markets have not been well researched, especially among SMEs (Joensuu-Salo et al., 2018). At the same time, the relationship between market and learning orientation, and dynamic capabilities, have not been sufficiently explored (e.g; Brower & Nath, 2018). The LO may be an important DC, that amplifies the capacity of strategic orientations to achieve competitive advantage (Baker et al. 2022). This literature gap is especially present in the context of SMEs.

Literature has found that SMEs face increased difficulty in adopting new technologies due to lacking necessary resources, skills, commitment, and proper understanding of opportunities (Giotopoulos, et al., 2017; Matarazzo et al., 2021). The lack of empirical investigation on inter-relations between organizational learning and other levels of capabilities is evident in both management and SMEs' research. In management literature, organizational learning, dynamic, and substantive capabilities have been differentiated (Easterby-Smith and Prieto, 2007) and ranked in a hierarchy of capabilities as second, first and zero order capabilities respectively (Winter, 2003; Ali et al., 2022). Therefore, Baker et al. (2022) consider LO to be an important dynamic capability, rather than a strategic orientation, that amplifies the capacity of strategic orientations to achieve competitive advantage, namely through low order capabilities..

Therefore, the main objective of this study is to improve our understanding of the impact of market and learning orientation on SMEs' competitiveness, through the effects of managerial and marketing capabilities. Additionally, the moderating effect of ambidexterity is considered, to provide additional comprehension to the proposed relationships. This investigation is based on cross - sectional data, collected using a structured questionnaire, with a sample of 387 Portuguese SMEs, operating in a transition economy. This paper advances three contributions to the literature. First, considering the combined effects of market and learning orientation to amplify the capacity of strategic orientations to achieve competitive advantage. Second, at the same time, articulating market and learning orientation with dynamic capabilities brings additional insights on the relationship with competitiveness. Third, according to Ali et al., (2022) we clarify this ambiguity regarding capabilities hierarchy that have been differentiated as zero, first and second order capabilities, which not only inherently linked substantive, dynamic and learning capabilities but also showed the place of dynamic capabilities up and down the capabilities' hierarchy (Winter, 2003; Schilke et al., 2018; Teece, D. J. 2018; Matarazzo et al., 2021).

Finally, the structure of this study consists of five parts, the first, about an introductory synopsis. Second: literature review and hypotheses development. Third, in the context of methodology, we present the model, the sampling, measurement and the results from the confirmatory factor analysis. Fourth, we present the discussion of the results. Finally, we discuss the implications of this conceptualization for market and learning orientation

mediated by marketing and managerial capabilities, to competitive advantage research and practice.

2. Literature review and Research Hypotheses

Dynamic capabilities are built on the resource-based view of the firm, that is, the valuable, rare, difficult to imitate and non-substitutable resources that confer upon the firm a competitive advantage in the market (Barney, 1991). Dynamic capabilities focus on adapting to changes in dynamic environments by making adjustments to this resource base; hence, they illustrate a dynamic, rather than static, resource-based view of the firm (Schilke et al., 2018). As opposed to the analysis of the resource-based view, that studies the firm's current resources - tangible and intangible assets and the operational capabilities (Eisenhardt and Martin, 2000) - the study of dynamic capabilities focuses on how the company's resource-base is modified, encompassing changes in the organizational capabilities as a response to the perception of external changing environments (Teece, 2007). The theory of hierarchical dynamic capabilities is instrumental in operationalizing how this transformation takes place at the organizational level. A mainstream in the study of dynamic capabilities highlights how different levels of dynamic capabilities (Collis, 1994) transform and evolve towards more complex hierarchies of capabilities (Winter, 2003). Several authors have proposed different ways to classify dynamic capabilities. Zahra et al. (2006) distinguish between substantive (ordinary) capabilities, including abilities and resources that allow a company to solve a problem or to achieve an outcome, and dynamic capabilities (the ability to change and innovatively recombine substantive capabilities, thus reconfiguring a firm's resources and routines in the manner envisioned and deemed appropriate by a firm's principal decision-makers (Inigo, & Albareda, 2019).

Literature does not adequately reflect potential fit within dynamic capabilities (Teece, Pisano, & Shuen, 1997). Dynamic capabilities thus reflect a firm's ability to achieve new and innovative forms of competitive advantage given path dependencies and market positions (p. 516). The dynamic capabilities concept has resulted in renewed focus on the processes and routines in a firm aimed at developing and renewing its organizational capabilities (Teece & Pisano, 1994; Teece et al., 1997; Matarazzo et al., 2021) namely managerial capabilities and marketing capabilities.

On the one hand, the purpose of this study was to enhance our understanding of the competitive value of market orientation by drawing on the dynamic capabilities perspective (Eisenhardt & Martin, 2000; Teece, 2007; Teece et al., 1997; Randhawa et al., 2021). On the other hand, learning allows organizations to reconfigure its knowledge resources and focus on both opportunities and threats (Slater & Narver, 1995). Because repetition and experimentation enable tasks to be performed better and more quickly than competitors (Teece et al., 1997), learning orientation strengthens a firm's ability to modify its knowledge resources and to continue to implement change effectively (Makhloufi, et al., 2021; Easterby-Smith & Prieto, 2008).

2.1 Market Orientation and Learning Orientation

Market Orientation has been one of the key concepts in strategy (Hagen et al., 2017) and marketing literature (Escandón-Barbosa et al., 2016) in the last two decades, with two fundamental theoretical approaches for its definition and measurement (Shoham, Rose, & Kropp, 2005). On one side, Narver and Slater (1990) adopt a cultural perspective and define Market Orientation as “the organization culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for the business”.

Market orientation requires sufficient resources to create sustainable competitive advantage (Suliyanto & Rahab, 2012). Market orientation involves customers and competitors, so that creative industry players should understand the role of organizational culture (Asheq et al., 2021). According to Chung (2012) market orientation is part of organizational culture. Related to the relationship with innovation, there are several studies that have been conducted to find out the relationship between them. Learning orientation is a multi-dimensional concept reflecting the values associated with knowledge (c.f., Baker & Sinkula, 1999; Laverie, Madhavaram, & McDonald, 2008). When top management encourages employees to question organizational norms, it reflects a culture that values learning (Laverie et al., 2008).

According to Sinkula, Baker, and Noordewier (1997), learning orientation is the basis of learning used to produce a learning process. Sheng and Chien (2016) argue that learning orientation tends to be used to create and manage knowledge. Meanwhile, according to Huber (1991), learning orientation is used to develop new insights which can then be used to shape behavior from values and beliefs. Learning orientation in practice requires a

commitment to learning and openness in thinking that is used as a driver of learning in an organization. According to Levinthal and March (1993) organizational ability in learning is a source of sustainable competitive advantage. Learning orientation involves an organizational culture that values organizational learning (Sinkula, Baker, & Noordewier, 1997). Firms with a strong learning orientation are more likely to commit to learning, to develop a shared vision and maintain an open mindset (Haan & Zhang, 2021). literature also suggests that firms may employ multiple strategic orientations (namely, learning orientation, and market orientation) and that these orientations may affect each other (Lonial & Carter, 2015). Thus, LO, defined as a set of organizational values that indicate the propensity of firms to create and use knowledge (Hanvanich, Sivakumar, & Hult, 2006) and similarly, MO, defined as “the set of cross functional processes and activities directed at creating and satisfying customers through continuous needs-assessments” (Deshpandé & Farley, 1998, p.226), has been found to boost EO and to reinforce each other in this transformation process (Hernández-Linares et al., 2021).

Moreover, this study focuses on the Najafi-Tavani’s (2016) vision of integrative Market orientation and Learning Orientation, that MO is a learning orientation, or as Slater and Narver (1994) suggest, the combination of MO with a learning orientation results in better organizational performance. Learning orientation is believed to have a synergistic benefit with market orientation. Many researchers (see e.g., Slater and Narver, 1995; Baker and Sinkula, 1999; Farrell, 2000) feel that market orientation only enhances competitive advantage when it is combined with a learning orientation. The reason for this is that learning orientation is required to leverage the adaptive behaviours provided by market orientation to a higher-order learning that leads to the development of breakthrough products or services, technologies, and the exploration of new markets (Farrell, 2000; Slater and Narver, 1995; Keskin, 2006; Hernández-Linares, et al, 2018)). But market-oriented organizations should be able to produce knowledge, and this knowledge production capability should, in turn, lead to knowledge-questioning values (Farrell, 2000). This makes it possible to consider market orientation as a driver of organisational learning (Baker and Sinkula, 1999; Pratono et al., 2019; Abdul-Halim et al., 2019; Hutahayan, B. (2021).

Table 1 - Construct linked variables

Basis	LINKED CONSTRUCT	REFERENCES
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		Udriyah, U., Tham, J., & Azam, S. (2019); Pratono, A. H., Darmasetiawan, N. K., Yudiarso, A., & Jeong, B. G. (2019); Na, Y. K., Kang, S., & Jeong, H. Y. (2019); Rizwan, M. (2021); Baker, W. E., Mukherjee, D., & Perin, M. G. (2022); Tu, Y., & Wu, W. (2021);
Competitive Advantage		
Market Orientation	Marketing Capabilities	Alerasoul, S. A., Afeltra, G., Hakala, H., Minelli, E., & Strozzi, F. (2021); Mainardes, E. W., de Oliveira Cisneiros, G. P., Macedo, C. J. T., & de Araujo Durans, A. (2021); Narula, S., Rana, S., Srivastava, S., & Kharub, M. (2021);
Learning Orientation		
	Managerial Capabilities	Fakhreddin, F., Foroudi, P., & Ghahroudi, M. R. (2021); Mostafiz, M. I., Sambasivan, M., & Goh, S. K. (2021); Shahtahmasbi, E. (2021); Fan, M., Qalati, S. A., Khan, M. A. S., Shah, S. M. M., Ramzan, M., & Khan, R. S. (2021); Buccieri, D., Javalgi, R. G., & Cavusgil, E. (2020).

2.2 Managerial Capabilities and Marketing Capabilities

Managerial capabilities refer to the capabilities with which managers build, integrate, and reconfigure the organization's resources and competences (Adner & Helfat, 2003). These capabilities enable top management teams to face their environment, improve organizational performance, and maintain and create competitive advantages (Carmeli & Tishler, 2004). Obviously managerial capabilities deal with introducing new policies, procedures, technical improvements, technical changes, creative ideas, new products and services to gain a sustainable competitive advantage (Lestari, et al., 2020) Managerial and marketing capabilities leads to superior organizational performance through effective adhocracy, organizational culture, organizational learning and implementing market strategy.

Marketing capabilities can be defined as integrative processes designed to apply the firms' necessary resources to its market related needs, enabling the firm to add value and

meet competitive demands (Day, 2011). Marketing capabilities allow the organizations to better understand the current and future needs of their customers in order to better serve them and also to reach new customers as well as to effectively analyze the competition (Fowler et al., 2000). It is considered that the presence of dynamic capabilities favors the development of marketing capabilities (Protogerou et al. 2012), which take place at different levels within the company ranging from the individual to the corporate level (Vorhies & Morgan, 2003, 2005; Joensuu-Salo et al., 2018).

2.3 Competitive Advantage

Besanko, Dranove, Shanley, and Schaefer (2000) showed that a firm receives a competitive advantage in the marketplace when their rate of economic profit is higher than the typical rate of their competitors. Competitive advantage was defined by Barney and Hesterly (2006) as the ability for a firm to generate a higher amount of economic wealth than their competitors. According to Stevenson (2009), a firm's success in using the resources of their organization to meet the demands of their customers in comparison to their competitors is how you measure competitive advantage. For the last 20 years, the main concern of practitioners and scholars has been identifying the causes of competitive advantage (Barney, 1991, 1995; Grant, 1996a; Peteraf, 1993). With the fierce increase in global competition, achieving sustainable CA gains additional focus. It was acknowledged by Barney (1991) that an organization can claim to have a competitive advantage when they start executing a strategy that will create value for them which is not being used by any of their rivals. It can be confirmed that an organization is using a sustainable CA when other organizations cannot duplicate the strategy's benefits for themselves. According to Barney and Hesterly (2009), high profits are the usual result of competitive advantage. However, competition is often attracted from high profits and this competition will reduce the amount of time that competition advantage will last. This is why competitive advantage is only temporary for most organizations. Since the nature of future competition and market conditions are difficult to forecast, a firm especially needs to be flexible with regard to the timing of market entry and adapting in response to the current environment (Sher and Lee, 2004). Though, competitive advantage and firm performance are often used interchangeably (Peteraf & Barney, 2003; Efrat et al. 2018; Khamis et al., 2022).

2.4 Market Orientation and Marketing Capabilities

MO acts as a source of marketing capabilities of a firm (Atuahene-Gima, 2005) and facilitates the building of different capabilities like marketing ones. This practice of creating information and using resources in a manner that facilitates boosting customer value, assists firms to create a base for competitive advantage (Zhou et al., 2009; Kamboj & Rahman, 2017). Marketing capabilities can support firms in the creation of an advantage through collecting novel market-related knowledge and disseminating it inside the firm (Morgan et al., 2009; Najafi-Tavani, et al., 2016). Hierarchical dynamic capabilities provide the framework that shows that affirm that marketing capabilities mediate the relationship between market orientation and competitive advantage and organizational performance (Murray et al., 2011). Companies which are oriented to the market develop higher levels of marketing capability (market research, pricing, product development, channels, promotion, and market management) than companies less oriented to the market, and thus significantly outperform the competition in terms of competitive advantage (Acikdilli et al., 2020; Bodlaj, & Čater, 2022).

Consequently, we propose to test the following hypothesis:

H1: Market Orientation has a positive impact on Marketing Capabilities

2.5 Market Orientation and Managerial Capabilities

The market Orientation is used to obtain information on market demand and to adjust the decision-making based on market information. In this sense, MO increases the possibility of having a better innovation based on the market needs, and therefore, it increases the confidence of the company to develop and use its managerial capabilities (Yaprak et al., 2015; Ali et al., 2017). Consequently, we propose to test the following hypothesis:

H2: Market orientation has a positive impact on Managerial Capabilities

2.6 Learning Orientation and Capabilities

Learning orientation acts as new knowledge and insights that have the potential to shape firm behavior (Huber, 1991): organizations that value learning should benefit from improved knowledge and experience. Thus, learning is a critical component in the development of organizational capabilities (Checchinato et al., 2017). The learning orientation helps managers transform their learning into capabilities via structural or procedural changes, in effective decision-making and through learning, develop routines

and standard procedures transforming them in managerial capabilities (Helfat & Peteraf, 2015; Cuervo-Cazurra et al., 2018). Consequently, we propose the following hypothesis:

H3: Learning orientation has a positive impact on Managerial Capabilities

2.7 Learning Orientation and Marketing Capabilities

Learning activities allow organizations to develop marketing capabilities, which enables them to anticipate and respond to market changes (Day, 1994a). The development of marketing capabilities, as with any other organizational capability, can be achieved through the exercise of organizational learning (Easterby-Smith & Prieto, 2008), which has long been associated with an organization's competitive advantage in the marketplace (Day, 1994a). Therefore, the degree to which the firm develops capabilities is a function of its learning orientation, and a firm with a strong predisposition to learning should develop its technology and marketing capabilities (O'Neil et al., 2014; Morgan et al., 2012; Gregory et al., 2019).

Consequently, we propose the following hypothesis:

H4: Learning Orientation has a positive impact on Marketing Capabilities

2.8 Marketing Capabilities and Competitive Advantage

According to Martin et al, (2020) the theory of competitive advantage elaborates on how marketing capabilities create competitive advantage and drive a firm's performance. Competitive advantage framework contends that low-cost and differentiation advantages are key determinants of performance (Barney, 1991; Morgan & Hunt, S. 1999). The theory also holds that it is essential to use a firm's marketing capabilities as an alternative to gain positional competitive advantage (Day, 1994). Therefore, the literature suggests that to enjoy superior performance, a firm should invest in its marketing capabilities. These marketing capabilities would allow the firm to deliver products and services better than competitors. Therefore, it is through the achievement of positional competitive advantage, that marketing capabilities are able to realize their full potential in respect of performance (Day, 1994). Marketing capabilities generate value, "integrating external information and transforming it into firm-embedded knowledge" (Wang & Ahmed, 2007, p. 37) Marketing capability improves relations with customers and external trust increases the level of shared knowledge, which is positively related to competitive advantages (Sáenz, 2012; Jardon & Cobas, 2022). Marketing capabilities (such as pricing,

product development, marketing communication) constitute important sources of competitiveness (e.g., Angulo-Ruiz, Donthu, Prior, & Rialp, 2014; Morgan, Vorhies, & Mason, 2009; Hamdani, et al., 2018; Cao et al., 2022). Consequently, we propose the following hypothesis:

H5: Marketing Capabilities have a positive impact on Competitive Advantage

2.9 Managerial Capabilities and Competitive Advantage

According to Lorenzo et al., (2018) the relationship between management capabilities and competitive advantage is based on the successful guidance of managers implementing cost reduction, product differentiation or a combination of both (Schuler and Jackson, 1987; Szymanski et al., 2021). Other key factors include the strategic vision of the business and the internal communication model: strategic management of human resources, which includes recruitment, job analysis, development, training, performance and compensation, and finally in the acquisition, development and use of organizational resources, the conversion of these resources into valuable products and services, and the delivery of value to partners and owners of the company. This set of managerial capabilities can become a generator of appropriable incomes and a source of maintenance of competitive advantage (Camisión-Haba et al., 2019). It also helps explain the relationship between strategic decisions and business performance, based on a superior competitive advantage of the company (Helfat and Martin, 2015). Consequently, we propose the following hypothesis:

H6: Managerial Capabilities have a positive impact on Competitive Advantage

3. The moderation of Ambidexterity

Ambidexterity is seen as the ability to invest and concentrate on both exploration and exploitation capabilities (He & Wong, 2004). Most companies do not have the resources or the ability to develop both capabilities which are usually seen as critical in the effort to improve innovation, competitiveness and performance (Gibson & Birkinshaw, 2004). Ambidexterity enables firms to exploit existing managerial capabilities and explore new market opportunities (Menguc & Auh, 2008; Tai et al., 2019). Ambidextrous firms can generate a competitive advantage by revolutionary and evolutionary transformations (Tushman & O'Reilly, 1996), exploration and exploitation (Benner and Tushman, 2003), and/or adaptability and alignment (Gibson, Birkinshaw, 2004). Tushman & O'Reilly (1996) argued that an ambidextrous firm can reach a high level of performance.

Therefore, ambidextrous capabilities allow the managers to create value and sustain competitive advantage in a rapidly changing environment (Birkinshaw & Gupta, 2013; O’Cass et al., 2014). Managers can avoid repeating mistakes by using lessons from past experiences and explore new knowledge to develop new products (Hughes et al., 2010; Yalcinkaya et al., 2007). Thus, managers with greater ambidextrous capabilities will be more successful in new product development that leads to achieve better performance (O’Cass et al., 2014; Huang & Li, 2017). Consequently, ambidexterity may create the right environment where the proposed relationships and hypotheses are to be explored, namely, moderating them.

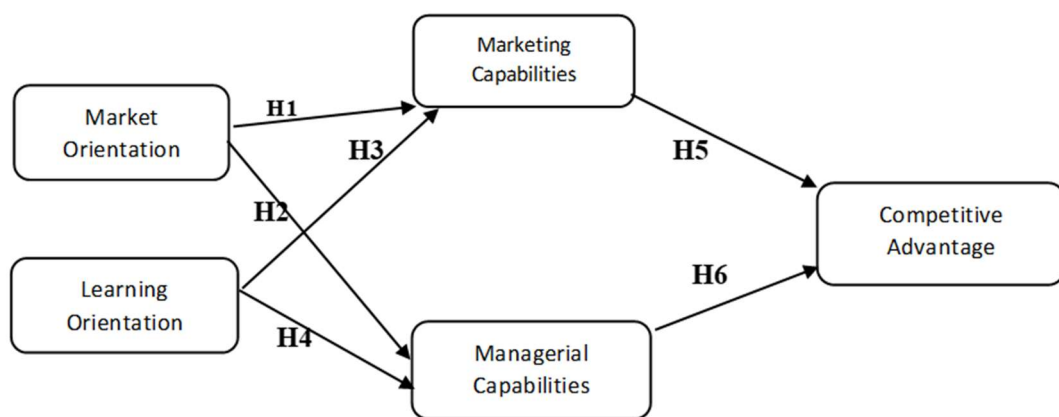


Figure 1- The Conceptual Model

4. Method

4.1 Sample and Data Collection

To test the proposed investigation model and the research hypotheses, data was collected via a structured questionnaire, using a snowball approach. Using information obtained from Portuguese SMEs business, a total respondents of 387 questionnaires were to Portuguese SMEs and a key informant in each company was contacted with a request to complete the questionnaire. Of these, 28% were from companies with less than 20 employees, 22% had between 21 and 50 and 40% had between 51 and 100 and 20% between 101 and 200 employees. Forty-three percent (43%) were share companies, 42% private limited companies and 15% single shareholder companies. In terms of lifespan, 25% were less than 10 years old, 65% between 11 and 20 years, 7% between 21 and 50

years and 3% more than 51 years. The respondents were scattered throughout the country with no sector being specially represented.

Table 2 - Sample characteristics

Age	<i>Average</i>	25 years
Lifespan	<10	25 %
	11- 20	65 %
	21-50	7%
	51>	3%
Legal enterprise Classification	share companies	43%
	private limited companies	42%
	single shareholder companies	15%
Number of employees	<i>Average</i>	25 employees
	<20	20%
	21-50	20%
	51-100	40%
	101-200	20%

4.2 Measurement scales

Information was gathered using a structured questionnaire where the scales was included with reference to the different variables identified in the proposed model. Table 3 summarizes the items of each measurement scale, as well as the sources from which they were taken).

Table 3 – Questionnaire items and standardized estimates

Market Orientation

Factor loadings

by Baker & Sinkula, (1999; 2002)

Intelligence Generation

- | | |
|---|------|
| 1. In this bus. unit we meet with costs. at least once a yr to find out what prods/svcs they will need in future. | ,828 |
| 2. Individuals from our prod. dept. or group interacts directly with costs. To learn how to serve them better | ,815 |
| 3. We are slow to detect changes in customer preferences (RS) | ,899 |
| 4. We poll end users at least once a year to assess the quality of our products/services. | ,811 |
| 5. We often talk with or survey those who can influence our end users' purchases (e.g. retailers or distributors) | ,805 |
| 6. We collect industry information through informal means | ,835 |

Intelligence Dissemination

- | | |
|--|------|
| 1. We have interdepartmental meetings at least once a quarter to discuss market trends and developments. | ,905 |
| 2. Mktg. pers. in our bus. unit spend time discussing customer's future needs with other functional depts | ,847 |
| 3. Our business unit periodically circulates documents (e.g. reports, newsletters) that provide information on our customers | ,879 |
| 4. When something important happens to a major cut. Or mkt., the bus. unit knows about it in a short time | ,849 |
| 5. When one dept./group discovers something important about comp., it's slow to alert other depts./groups (RS) | ,870 |

Responsiveness

- | | |
|---|------|
| 1. Principles of market segmentation drive new product development efforts in this bus. unit. | ,852 |
| 2. For various reasons, we tend to ignore changes in outcast's prod./svc. needs (RS) | ,870 |
| 3. We periodically review prod./svc devel. efforts to ensure they are in line with cost's want. | ,870 |
| 4. Our bus. plans are driven more by tech. advances than by market research (RS). | ,862 |
| 5. Several departments or groups meet periodically to plan responses to changes taking place in our business environment. | ,851 |
| 6. Our prod. lines are more a function of internal concerns or politics than real mkt. needs (RS). | ,838 |

Learning Orientation

By Baker, and Noordewier (1997)

Commitment to learning

- | | |
|--|------|
| 1. Managers basically agree that our business unit's ability to learn is the key to our competitive advantage. | 852 |
| 2. The basic values of this business unit include learning as key to improvement. | ,866 |
| 3. The sense around here is that employee learning is an investment, not an expense. | ,887 |
| 4. Learning in my organization is seen as a key commodity necessary to guarantee organizational survival. | ,808 |
| 5. Our culture is one that does not make employee learning a top priority. | ,857 |

Shared vision

- | | |
|--|------|
| 1. There is a well-expressed concept of who we are and where we are going as a business unit. | ,859 |
| 2. There is a total agreement on our business unit vision across all levels, functions, and divisions. | ,833 |
| 3. All employees are committed to the goals of this business unit. | ,880 |

4. Employees view themselves as partners in charting the direction of the business unit.	,850
5. Top leadership believes in sharing its vision for the business unit with the lower levels.	,851
6. We do not have a well-defined vision for the entire business unit.	,865
<i>Open-mindedness</i>	
1. We are not afraid to reflect critically on the shared assumptions we have about the way we do business.	,871
2. Managers in this business unit do not want their “view of the world” to be questioned.	,830
3. Our business unit places a high value on open-mindedness.	,893
4. Managers encourage employees to “think outside of the box.”	,869
 <i>Managerial Capabilities</i>	
by Merrilees et al. (2011).	
1. Has better operational management expertise	,854
2. Has better overall management capabilities	,890
3. Is more able to execute marketing strategies quickly	,895
4. Manages its supply chain better	,880
5. An emphasis on constant innovation is not a part of our corporate culture.	, 865
6. Original ideas are highly valued in this organization.	,896
 <i>Marketing Capabilities</i>	
by Vorhies Morgan, and Nason (2009)	
<i>Pricing capabilities</i>	
1 Using pricing skills and systems to respond quickly to market changes	,712
2. Knowledge of competitors’ pricing tactics	,773
3. Doing an effective job of pricing products/services	,725
4. Doing an effective job of pricing products/services.	,842
 <i>Distribution Capabilities</i>	
1. Strength of relationships with distributors	867
2. Attracting and retaining the best distributors	816
3. Adding value to our distributors’ businesses	,785
4. Providing high levels of service support to distributors	,802
 <i>Marketing communication capabilities</i>	
1. Developing and executing advertising programs	,780
2. Advertising management and creative skills	,835
3. Public relations skills	,801
4. Brand image management skills and processes	,829

Selling capabilities

- | | |
|--|------|
| 1. Giving salespeople the training they need to be effective | ,793 |
| 2. Sales management planning and control systems | ,775 |
| 3. Selling skills of salespeople | ,789 |
| 4. Sales management skills | ,774 |

Marketing planning capabilities

- | | |
|---|------|
| 1. Marketing planning skills | ,857 |
| 2. Ability to effectively segment and target market | 802 |
| 3. Developing creative marketing strategies | 821 |
| 4. Thoroughness of marketing planning processes | 800 |

Marketing implementation capabilities

- | | |
|---|------|
| 1. Allocating marketing resources effectively | ,790 |
| 2. Organizing to deliver marketing programs effectively | ,773 |
| 3. Translating marketing strategies into action | ,756 |
| 4. Executing marketing strategies quickly | ,803 |

Competitive Advantage

by Thatte (2007), and Vokurka et al. (2002)

- | | |
|---|------|
| 1. We offer competitive prices | ,886 |
| 2. We are able to offer prices as low or lower than our competitors | ,866 |
| 3. We are able to compete based on quality | ,810 |
| 4. We offer products that are highly reliable | ,834 |
| 5. We offer products that are very durable | ,839 |
| 6. We offer high quality products to our customers | ,840 |

Ambidexterity

In this study is used a metric inspired on the Lubatkin (2006) measure of ambidexterity, as this metric might be the most appropriate for the integration of the two dimensions of ambidexterity used by He & Wong (2004) and the scale of Benner & Tushman (2003)

who conceptualized ambidexterity on a two-dimensional definition, entailing exploration and exploitation differences along an innovation's proxy. Accordingly, we settled a cut point to define low and high ambidextrous companies, using the measures for exploration and exploitation capabilities, considering the cases of companies computing above the average on both capabilities – the high ambidexterity group – and the companies computing below the average on at least one of the capabilities – the low ambidexterity group. Consequently, the sample was divided in two groups: high ambidexterity group and low ambidexterity group.

4.3 The Model

All the elements are measured on a seven-point Likert scale (1=strongly disagree to 7=strongly agree). Confirmatory factor analysis was used to assess the psychometric properties of the scales and the measurement model adequacy, using AMOS 21. The final model shows a good fit (IFI=0,911; TLI=0,908; CFI=0,911; RMSEA=0,049; CMIN/DF=1,911. Composite reliability (CR) and the average variance extracted (AVE) were computed. All the scales revealed values above 0.7 on CR and above 0.6 on AVE, which agree with the recommendations from Hair et al., (2006). Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly minor than 1 and the squared correlations calculated for each pair of constructs is always smaller than the variance extracted for correspondent constructs (Fornell and Larker, 1981; Shiu et al., 2011), thereby confirming the discriminant validity.

Table 4 - Square Correlations, Cronbach's Alpha Composite reliability and Variance extracted

Construct	X1	X2	X3	X4	X5	CR	AVE
Managerial Capabilities	0,94					0,97	0,77
Market Orientation	0,36	0,94				0,92	0,79
Learning Orientation	0,47	0,56	0,96			0,96	0,89
Marketing Capabilities	0,45	0,49	0,80	0,91		0,93	0,69
Competitive Advantage	0,40	0,53	0,87	0,73	0,92	0,94	0,72

Diagonal in bold - Cronbach's Alpha; CR - Composite Reliability; AVE - Average Variance Extracted

When self-administered questionnaires are used a common variance bias problem can emerge or increase (Podsakoff et al. 2003). According to Podsakoff et al. (2003), the

common method variance (CMV) tests will help in identifying the existence of variables that can provoke measurement errors and systematic biases in the estimation of the relationships between constructs. The emergence of this problem may arise when: the information about the independent and dependent variables derives from the same respondent, the same scale format is used throughout the questionnaire, different constructs are measured at the same time and using the same instrument.

Based on the suggestions made by Podsakoff and Organ (1986), a Harman's single factor test and a common latent factor (CLF) analysis were performed to apprehend the common variance among all observed variables in the model. The Harman test demonstrated that any factor could explain more than 23% of the variance and there were 11 factors with eigenvalues greater than 1, explaining 73% of the total variance. A confirmatory factor analysis was conducted restricting all items of the model to load on a common single factor (Podsakoff et al., 2003). The resulting fit indices show the model did not provide a good adequacy for the data: CMIN/DF1.6; IFI=0.468; TLI=0.434; CFI=0.465

The results of the final testing are presented on table 5:

Table 5 - Estimation of the Structural Model Results

{	Relationship		SRW			C.R.			P			Supported/ Not Supported	
			SRW	C.R.	P	SRW	C.R.	P	SRW	C.R.	P		
H1	Marketing Capabilities	←	Market Orientation	,240	7,188	***	,248	5,524	***	,217	3,949	***	Supported
H2	Managerial Capabilities	←	Market Orientation	,174	2,457	***	,061	,632	,260	,296	2,478	***	Supported
H3	Managerial Capabilities	←	Learning Orientation	,305	10,035	***	,322	7,718	***	,121	1,383	,167	Supported
H4	Marketing Capabilities	←	Learning Orientation	,223	3,907	***	,322	7,718	***	,270	5,918	***	Supported
H5	Competitive Advantage	←	Marketing Capabilities	,560	6,186	***	,615	5,245	***	,506	3,944	***	Supported
H6	Competitive Advantage	←	Managerial Capabilities	,096	2,363	***	,161	2,785	***	,009	,155	,470	Supported
			GLOBAL (n=387)				Low Ambidexterity (n= 212)				High Ambidexterity (n=175)		
LO – MG/MC – com:			[0, 219 (0,139;0,205), 95% Bootstrap confidence interval]										
MO – MG/MC – com :			[0,142 (0,086,0,238), 95% bootstrap confidence interval]										

5. Findings and Discussion

Amos 21.0 was used to perform CFA and SEM to test the proposed hypotheses. The final model presents a good fit ((IFI=0,911; TLI=0,908; CFI=0,911; RMSEA=0,049; CMIN/DF=1,911). A multi-group analysis was performed to test the moderation effects of Ambidexterity, considering two groups: the Low group, with 212 respondents; and the High group with 175 respondents. A chi square test was performed to compare the two groups and the results show a meaningful difference between them. The differences between the unconstrained model (chi square = 1579,101 D.F. = 778) and the fully constrained model (chi square = 1643,281; D.F. = 810) show that the models are different (chi square = 94.080; D.F. = 32; $P \leq 0.00$; $CV=62.275$), and that the moderation effects are significant.

There is a positive relationship between Market Orientation and Marketing and Managerial Capabilities, thereby supporting H1 ($r=0,240$; $P=***$) and H2 ($r=0,174$; $P=***$). Marketing capabilities are seen in the literature as important market-related mechanisms by which superior market knowledge might be deployed by market-oriented firms, to generate economic rents (Day, 1994). According to the same author, market-driven cultures support the value of thorough market intelligence, which enhances the organization's knowledge related resources (Tolstoy, et al., 2022). Based upon the resource-based view, Day (1994b) suggests that market-oriented organizations tend to have superior outside-in capabilities – i.e., market sensing, customer linking, and channel bonding capabilities (Wang, 2020). Therefore, our results support this relationship between MO and marketing and managerial capabilities.

There is a positive relationship between learning orientation and managerial and marketing capabilities, thereby supporting H3 ($r=0,305$; $P=***$) and H4 ($r=-0,233$; $P=***$). According to prior investigations, considerable studies have pointed out the positive impact of learning orientation on managerial skill development and the overall productivity of firms (Deakins et al., 2010). Additionally, Porter and Tansky (1999) suggest that the development and delivery of training need to be adapted and personalized to meet the learning orientation of participants to maximize learning benefits. The first of our result are in line with the investigations that show that small business owners can maximize opportunities for skill development if there is a combination between the

opportunities and the “owner-managers’ learning styles and behavior” (Van Gelderen et al., 2005). On the other hand, organizational learning and marketing capabilities significantly positively increase customer satisfaction (Berghman et al., 2012). According to Halim (2019), managers who believe their companies have a higher learning orientation found that they also had better information systems, and the ability to market better than companies with a lower learning orientation. The learning orientation will become easier and simpler with the help of a management system, so that learning is the main point in driving marketing capabilities (Peridawaty et al., 2021). Learning orientation also affects innovation and/or company performance (Baker and Sinkula, 2009), providing the basis to make a new product launch more successful (in general) and the effect of marketing capabilities on a new product’s launch success (Calantone and Di Benedetto, 2012; Adams et al., 2019; Quach et al., 2020).

There is a positive relationship between Marketing Capabilities and Competitive Advantage, therefore supporting H5 ($r=0,560$ $P=***$). According to Najafi-Tavani et al., (2018) MC are a combination of mid-level marketing activities (Vorhies & Morgan, 2005) and higher-level marketing capabilities (Merrilees et al., 2011), necessary for marketing strategy development and execution. These capabilities are in fact important resources for firms, supporting them in achieving competitive advantage and superior performance (Morgan et al., 2009; Vorhies & Morgan, 2005). Therefore, our results support the basic assumption that marketing capabilities may increase the company competitiveness.

There is a positive relationship Managerial Capabilities and Competitive Advantage therefore supporting H6 ($r=0,096$; $P=***$). Managerial capabilities are derived from activities involving the tacit knowledge deposited in managers (Camisón, 2004). These types of capabilities can be a source of competitive advantage because they decisively determine the acquisition, development, and deployment of the rest of the resources and capabilities, their conversion into valuable products, and the creation of value (Camisón-Haba et al., 2019).

The effects of market orientation seem to be higher in the high ambidexterity group, especially on the marketing capabilities and competitive advantage. Ambidexterity seems to create the right environment for market orientation to produce better results in the development of organizational capabilities, especially managerial capabilities (Cao et al., 2009). Learning orientation seems to perform better and produce stronger results among

the low ambidexterity group, both on marketing and managerial capabilities. Ambidextrous companies present higher levels of exploitation and exploration capabilities, where knowledge is tendentially higher and better transformed in capabilities (Iyer et al., 2019). Both marketing and managerial capabilities seem to produce higher effects on competitiveness on the low ambidexterity group. Apparently they may produce higher effects among companies that are not so skilled on combining exploration and exploitation (Ojha et al., 2018; Zameer et al., 2020). therefore, having a stronger impact on competitive advantage. The effects of learning may contribute to a fast recovery of the missing knowledge and the missing capabilities (Ge et al., 2018), but marketing capabilities seem to have a more robust effect on the final competitiveness of the company (Kohtamäki et al., 2020). On competitiveness due to the combination of superior market performance and better managerial skills, in a context of higher exploitation and exploration capabilities (Clauss, et al., 2021).

Mediation analysis

Analyzing the mediating effects of marketing capabilities and managerial capabilities, they try to explain how learning (Bucciari et al., 2020) and market orientation (Alnawas, I., & Hemsley-Brown, 2019). may affect competitiveness in a relationship that seems to be rather indirect (Abbu, H. R., & Gopalakrishna, P. 2021). The model of total mediation shows that they both mediate the proposed relationships and help explaining how the effects are transferred from MO and LO to a greater competitive advantage. Learning seems to produce an higher indirect effect, especially because it seems to amplify, additionally, the effects MO may have on the development of organizational capabilities (Al Mamun et al., 2022) and competitiveness. Slater and Narver (1994) equate MO with the process of learning, behavior change, and performance improvement. One of the components of MO is inter-functional coordination (Lukas & Ferrell, 2000), which is about the coordinated application of resources for generation and dissemination of market intelligence (Slater & Narver, 1994). The organizational learning and DC theories suggest that success of the process of intelligence gathering, and deployment, depends on the firm's absorptive capability (Javalgi, Hall, & Cavusgil, 2014), and the dynamic marketing and managerial capabilities may explain how these effects are transferred.

Our results go in the same direction and help explain this idea of a learning culture that may boost the impact of market orientation (FarajAllah et al., 2018) and even those from

the organizational capabilities (Bhatti et al., 2020). Learning orientation and the organizational capabilities seem to be necessary for the discovery, development and launch of novel or radical ideas (Baker and Sinkula, 1999; Cake et al., 2019) that may contribute for a stronger and more sustainable competitiveness (Kasim, et al., 2018;. Nguyen et al., 2021; Seo, & Park 2022).

Implications

The main implication of this study is based on an integrative view of the Market and Learning Orientation to competitive advantage. Therefore, this investigation presents three major contributions. First, investigating the chain of effects between market orientation and learning orientation, through managerial and marketing capabilities. Second, this investigation uses the combined effects of managerial and marketing capabilities as a result of the impulse given by dynamic capabilities perspective. Finally, it introduces the contextual moderating effects of ambidexterity, investigating how it might affect the proposed relationships (Acquaah and Agyapong, 2015; Lindgreen and Di Benedetto, 2018). According to Song et al. (2007) and Jalali et al. (2019) the DCs are one of the main drivers of a sustainable competitive advantage. Additionally, the findings provide significant support for the positive link between marketing and managerial capabilities and SME's competitive advantage. Marketing is the predominant source of knowledge for the learning organization. Therefore, by being market-oriented, the firm is likely to develop a culture that fosters not only the generation, dissemination, and responsiveness of/to market information, but also the activities embedded in the learning-oriented organization. In this sense, the findings extend the recent views of the nexus between organizational culture and marketing and managerial capabilities (e.g. Day, 1994a; Slater and Narver, 1995; O'Cass and Ngo, 2007).

Managerial implications

This paper describes the relationship of superior performance of the managerial and marketing capabilities, Market orientation, learning orientation and the culture of the organization affect indirectly the performance of the organization through marketing and managerial capabilities. There is a need to integrate the resources to implement market orientation, to strengthen their marketing and managerial capabilities and to achieve sustainable competitive advantage and superior organizational performance. Although managers have generally been advised to be market-oriented, our study cautions that it is not market orientation and learning orientation that directly influence competitive

advantage. Our findings underscore the importance of paying more managerial attention to the underlying process through which market orientation and learning orientation wield that influence via marketing and managerial capabilities. Yet, market orientation and learning orientation themselves might not help firms attain desirable performance; what is needed is effort to transform market orientation and learning orientation into different types of marketing capabilities (i.e., pricing, new product development, and marketing communication capabilities), and then into competitive advantages (i.e., lower-cost and differentiation advantages). Our findings also confirm the general axiom that no strategy “is universally superior, regardless of the environmental or organizational context” (Venkatraman, 1989). We draw managers’ attention to the idea that the critical role of market orientation and learning orientation on marketing and managerial capabilities development might vary across the different levels of internal and external factors, namely, the firm’s ambidexterity.

6. Limitations and Future Investigation

This study has some methodological limitations affecting its potential contributions. As a cross-sectional study that captures one image in time, its ability to identify strict causality between variables is limited given the scope and methodology adopted. About this subject, our model has left some variance unexplained, which peer researchers might feel interested to explore. For example, there may be other organizational resources/capabilities in addition to marketing and managerial capabilities that drive firm performance, such as networking capability and innovation and production capability, among others. Also, we did not control for ownership, which can be an important variable influencing firms’ decision-making, capability use and performance. As for recommendations for future work, the model could be tested introducing variables like entrepreneurial and market orientation, both as mediators or moderators.

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INVESTIGATION 3

Dynamic Capabilities, Creativity and Innovation Capability and their impact on Competitive Advantage and Firm's Performance: the moderating role of Entrepreneurial Orientation

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Abstract:

Some scholars hold that dynamic capability (hereinafter DC) is one of the keys to achieving competitive advantage (hereinafter CA) and consequently, performance in strategic management. However, the definition and effects of DCs and the role of environmental dynamism are still under discussion. In the context of a Portuguese-like economy and from a strategic process perspective, this study defines dynamic capability as the potential to systematically solve problems, enabled by its propensity to sense

opportunities and threats, to make timely decisions, and to implement strategic decisions and changes efficiently, thereby ensuring the right direction. Moreover, the ambidexterity view, exploring the indirect impact of exploitative and explorative capabilities, mediated by creativity and innovation competences (hereinafter IC) gives evidence of the influence on CA and firm's performance. Using an empirical study of 387 enterprises in Portugal, it was found that DCs, creativity and IC do significantly, positively, affect performance, while entrepreneurial orientation (hereinafter EO) is a moderator.

Keywords: Dynamic Capabilities; Exploration; Exploitation; Creativity; Innovation Capability; Entrepreneurial Orientation; Competitive Advantage and Performance.

1. Introduction

This paper investigates the impact of Dynamic Capabilities (DC) on Competitive Advantage (CA) and performance considering the mediating role of creativity and innovation capabilities (IC). The moderating role of Entrepreneurial orientation (EO) was introduced to establish a specific environment which could boost or inhibit the proposed relationships.

The aim of the DC's approach is to explain the competitive advantage of firms over time (Teece and Pisano, 1994). The origins of the concept lie in strategic management, but it has been applied in areas as diverse as marketing, entrepreneurship (Barreto, 2010), risk management (Colarelli et al., 2008), innovation management (Lawson and Samson, 2001) and logistics (Glenn, Genchev, and Daugherty, 2005). Numerous studies have identified different prerequisites of innovation in SMEs, from both a developed country context (e. g. Löfgren, 2014; van de Vrande et al., 2009) and an emerging country context (e. g. Ren et al., 2015; Zeng et al., 2010; Nordman and Tolstoy, 2016).

In the last few decades a growing number of scholars have regarded DC's as being at the heart of firm strategy, value creation and CA (e.g. Teece, 1997; Eisenhardt and Martin, 2000; Winter, 2003, Teece, 2007, Helfat, 2007, Protogerou et al., 2011). Theoretical arguments about their nature and their relationship with firm performance have been advanced. DC's thus reflect an organization's ability to achieve creativity and innovative forms of CA given path dependencies and market positions (Leonard-Barton, 1992). While the concept of DC has been applied to firms within industries (Teece et al., 1997; Hou and Chien, 2010) and in the internationalization efforts of firms (Shenkar and Luo,

2008) it needs to explore it in SME's companies. SMEs in dynamic or sometimes turbulent environments need to anticipate changes and react to them (Medina-Garrido, Ruiz-Navarro and Bruque-Camara, 2005).

Many scholars are still skeptical about the role of and conceptualizations advanced about DC's (Winter 2003, Zahra et al., 2006). DC's have often been criticized for being tautological (e.g. Priem and Butler, 2001), vague and not operational. Furthermore, while organizational performance has been a core issue in the research on DC's since the seminal article of Teece, (1997), the question of whether and how they affect performance is still open (Helfat, 2007). The gap in knowledge raises key questions which this study seeks to address.

This study adopts March's (1991) view, whose seminal work suggested that exploration and exploitation is burgeoning and has emerged as an underlying theme in strategy management (e.g. Hoang and Rothaermel, 2010; Voss et al., 2008), organizational learning (e.g. Kim and Atuahene-Gima, 2010; Kane and Alavi, 2007), leadership (Jansen et al., 2008), and innovation (e.g. Li, 2008). Based on these pioneering articles, exploration was defined as "experimentation with new alternatives whose returns are uncertain, distant, and often negative", while exploitation was defined as "the *refinement and extension of existing competencies, technologies, and paradigms*" (March, 1991). Much conceptual research and many empirical studies have shown that pursuing exploration and exploitation requires substantially different structures, processes, strategies, and capabilities. Moreover, the literature on performance implies that exploration and exploitation may have different impacts on a firm's adaptation and performance. Therefore, this impact may be rather indirect and needs further developments (Protogerou et al., 2008). As matter as fact, March's (1991) work and other literature (He and Wong, 2004; Raisch et al., 2009; Goel and Jones III, 2016) have also indicated that both exploration and exploitation have a dark side in their effect on performance. Which has shown that either a high level of exploration or a high level of exploitation can diminish a firm's performance since the potential risk and cost might outweigh the advantages derived from such exploration and exploitation.

While SMEs play a very important role in most economies (Storey and Tether, 1998), "gazelles," which are fast-growing SMEs (Birch, 1981) typically constituting 99% of all firms in a country (Sims and O'Regan, 2006) and existing within all industries (Parker et al., 2010). They contribute disproportionately to the creation of wealth and jobs (Birch,

1981; Acs and Parsons, 2008; Parker et al., 2010). The general idea is that gazelles grow regardless of industry growth, not just grow in line with other companies in a growing industry (Storey and Greene, 2010). How then, growth be achieved? Several sources link growth to innovation, and that innovation might be of crucial importance for fast-growing firms (Coad, 2009). Laforet (2010) sustains that today's market leaders, besides having visionary growth strategies, also need to focus heavily on innovation. At the same time, Coad (2009), in his large review of theories and empirical evidence on the growth of firms, states that although theoretical economists more or less "take it for granted that firms with higher performance will reinvest their profits into growth" (p. 49). However, the empirical evidence, he argues, tends to show contradictory results, i.e., that profit is not reinvested in R&D. Storey and Greene (2010) state that the innovation processes in SMEs can largely be depicted as two choices: either high-growth innovation strategies or low-growth ones, i.e., innovation is linked to high growth while low-growth means being satisfied with status quo.

Several different studies have shown that DC's facilitate international expansion and new business new business creation of SMEs. At the same time, studies in this area have mainly focused on firms operating in rather developed markets, and little is known about what DC's are, or their relationship with performance in transition economies. Thus, this investigation uses Portugal as a testing ground for the universality of the generated theory for three reasons: Portugal's size in the global economy, because it is in a process of internationalisation, and its insertion in a European context. At the same time, the Portuguese industrial structure is characterized by mainly SMEs, which may represent 99% of the operating firms. In this sense, Portugal is the second largest country in the European Union with more small and medium-sized enterprises (SMEs) per 100 inhabitants, just behind the Czech Republic. This is one of the highlights of the annual report released by the European Commission. Brussels notes, however, that employment in SMEs is slowly recovering and is still below the 2008 crisis. By 2015, there were 783 307 small and medium-sized enterprises, representing 99.9% of the business sector. SMEs gave employment to four out of five workers (78.1% of employment). Both indicators are above the average of the 28 EU countries (99.8% and 66.8%), respectively.

Portugal ranks 14th in the category of the most innovative countries in the European Union. This is its best position ever, climbing four places in the European innovation ranking in 2017, contrary to the retrogression since 2011. Despite the improvement in the

ranking, Portugal is among the few countries in the "high income" group that continues to invest less in research and development than in the pre-crisis period.

Finally, in this context, to address these research gaps, this study explores the definition and the specifically exploitative and the explorative vision of the firm, and the effects of DC's on performance, establishing the chain of effects introducing the mediating role of creativity and IC, to find a better comprehension of the relationships between DCs and performance and CA. The moderating role of EO is introduced to find additional explanations to these relationships, in the Portuguese context.

2. Background and Research Hypotheses

2.1 Dynamic Capabilities

2.1.1 Dynamic Capabilities

Teece's (1997) seminal work probably makes the first contribution explicitly developing the notion of DC's. This research (1990 p.34) stated that "*our view of the firm is somewhat richer than the standard resource-based view ... it is not only the bundle of resources that matter, but the mechanisms by which firms learn and accumulate new skills and capabilities, and the forces that limit the rate and direction of this process*".

DC's was originally defined as a firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments (Teece, 1997). To avoid the tautology of defining capability from the process perspective, Eisenhardt and Martin (2000) propose a broad definition of DC's that perceives them to be a set of specific and identifiable processes such as product development, strategic decision-making, and alliancing. Drawing on the entrepreneurship perspective, Zahra, (2006) define DC's as the abilities to reconfigure a firm's resources and routines according to the manner envisioned and deemed by its principal decision makers.

According to Teece (2017) a key element of a firm's DC's for seizing new opportunities in most cases will be the managerial competences for devising and refine in business models (Teece, 2007). In fact, over the past decade, managerial competences have developed into the sub-field of dynamic managerial capabilities (Helfat and Martin, 2015), of which designing and implementing new business models is an important feature. DC's are hard for rivals to replicate because they are built on the idiosyncratic

characteristics of entrepreneurial managers and the history-honed routines and culture of the organization (Teece, 2014a). In addition, there is the uncertain imitability of a complex system that even those directly involved may not fully understand (Lippman and Rumelt, 1982). Because they are a unique and valuable general-purpose resource, strong DC's can serve as a firm foundation for sustainable CA. This is especially true the more deeply embedded the capabilities are in the organization, and the less they are resident only in the top management team.

The literature has contributed to the understanding and development of the concept of DCs, promoting them as an important tool to sustain CA under dynamic environments, drawing guidelines for firms to build DC's, analyzing and/or examining their use in various industries, and showing the evidence of successful implementations of DC's through case studies. Both empirical and conceptual contributions offer valuable knowledge as they identify, develop, demonstrate, examine and/or explain DC's in various settings. The research has taken place in industries such as high-tech (Helfat and Peteraf, 2003), strategic management (Teece, Pisano and Shuen, 1997; Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003; Zhou and Li, 2009), knowledge management, and organizational learning (Zollo and Winter, 2002; Marsh and Stock, 2006; Ho and Tsai, 2006). From DC's perspective, firms need to continuously build, integrate and reconfigure their skills and abilities to adapt to their environment and sustain CA (Eisenhardt and Martin, 2000).

2.1.2 The nature, origins and evolution of dynamic capabilities

DC's have become a key topic in management research in recent years (Di Stefano, Peteraf, and Verona, 2010; Di Stefano, Peteraf and Verona, 2014; Easterby-Smith, Lyles and Peteraf, 2009). In general, research on DC's is interested in how firms build and adapt their resource base to maximize organizational fit with the environment. One of the distinctive features of the DC's perspective is the notion that such adaptation can be based on organizational routines—learned, repetitious behavioral patterns for interdependent corporate actions (Di Stefano et al., 2014; Helfat & Peteraf, 2003; Pierce, Boerner and Teece, 2002; Winter, 2003). But if DC's are reflected by organizational change routines, how do firms build and adapt such routines? Some capabilities scholars have suggested that they do so by employing second-order DC's that operate on the firm's first-order DC's (Collis, 1994; Zollo & Winter, 2003). Consequently, a distinction can be made

between first order DC's (routines that reconfigure the organizational resource base) and second-order DC's (routines that reconfigure first-order DC's).

Introducing this distinction enhances theoretical precision by specifying what the organizational routine aims to change. Although this hierarchy of DC's seems to be generally accepted in the literature (e.g., Ambrosini, Bowman and Collier, 2009; Easterby-Smith et al., 2009; Easterby-Smith and Prieto, 2008; Robertson, Casali, & Jacobson, 2012), detailed knowledge of exactly how first- and second-order DC's are intertwined still lacks. There is a dearth of empirical work investigating the role of second order DC's in conjunction with first-order DC's (Peteraf et al., 2013).

This article aims to address this gap in two ways. First, I investigate whether second-order dynamic DC's have an indirect performance effect that is mediated by first-order DC's (as would be the case if the central function of the former is to develop the latter). Second, I explore how first- and second order DC's jointly influence organizational performance outcomes. Consequently, alliance management capability is widely recognized as a prime example of a first-order DC's (e.g., Anand, Oriani, & Vassolo, 2010; Helfat and Winter, 2011; Schilke and Goerzen, 2010). Further, important progress has been made in conceptualizing alliance learning routines as a second order DC's (Kale and Singh, 2007, 2009; Zollo & Winter, 2002). For these reasons, the context of strategic alliances makes an ideal setting for this study.

2.1.3 Dynamic Capabilities and Competitive Advantage

Since the seminal works by Teece et al. (1997) and Eisenhardt and Martin (2000), DCs have become and remained a central research area on knowledge and innovation. Despite the popularity, there are still several shortcomings, in particular the fragmentation of the literature (Arend and Bromiley, 2009). A number of authors (e.g. Peteraf et al., 2013; Vogel and Güttel, 2013) suggest that various conversations on DCs emerge that, although partly complementary, do not necessarily share a common theoretical grounding. The fragmentation of the field is visible in the diversity of definitions and conceptualizations of DCs (Ambrosini and Bowman, 2009). We can usefully divide these conceptualizations into groups by classifying them along the lines of a distinctive desirable outcome, that is, successful adaptation to environmental changes or the achievement of CA. A recent meta-analysis has shown that the empirical evidence for the relationship between DCs and CA is inconsistent (Pezeshkan, Fainshmidt, Nair, Lance Frazier and Markowski, 2015). The initial purpose of Teece et al. (1997) was to explore how firms

can sustain a CA in highly dynamic environments. Accordingly, they conceptualized DCs as leading to ‘sustainable’ success. However, only some of the existing research follows this assumption today. The present paper therefore distinguishes between conceptualizations that include a distinct outcome, and those that do not. The group that argues for a distinct outcome consists of two sub- groups, which either argue for sustainability or not. Like Teece et al. (1997), Wang and Ahmed's (2007, p. 35) approach belongs to the first group. They define DCs as “a firm's behavioral orientation constantly to integrate, reconfigure, renew and recreate its resources and capabilities and, most importantly, upgrade and reconstruct its core capabilities in response to the changing environment to attain and sustain CA”. DCs help the development of “particular capabilities” (p.41), like creativity or innovativeness, which are more likely to improve performance and competitiveness.

2.1.4 The Exploitation and Exploration Capabilities Perspective

According to the DC perspective, firms need to continuously build, integrate, and reconfigure their skills and abilities to adapt to their environment and sustain CA (Eisenhardt and Martin, 2000). The most important capabilities in IC and creativity are exploitation and exploration (Atuahene-Gima, 2005). Exploitation concerns the refining of existing capabilities, while exploration concerns the challenge of existing ideas (e.g., March, 1991).

Although earlier research clearly points to the importance of exploitative and explorative capabilities in firm performance, the bulk of studies mainly contemplate technology and product development capabilities (e.g., Atuahene-Gima, 2005) and disregard other possible domains (Lavie and Rosenkopf, 2006).

Based on March's (1991) definitions, competence exploration reflects a firm that dedicates venture resources to acquiring entirely novel knowledge, skills, and processes, all of which are new to the firm and based on existing knowledge as well. This novel knowledge increases the firm's potential to add variety, to experiment and to explore flexibility and novelty in product innovation (McGrath, 2001; Raisch and Birkinshaw, 2008). The intention of these firms is to focus on offering new designs, creating new markets, and developing new distribution channels. Competence exploitation indicates that a firm is investing its resources into the reinforcement of existing knowledge, skills, processes and structures that follow the same trajectory as before. This knowledge may achieve

greater efficiency and reliability through innovation in the existing product (O'Reilly et al., 2008; Raisch and Birkinshaw, 2008).

Other studies have considered exploitation and exploration as dependent variables. For example, Benner and Tushman (2002) studied the influence of process management on both types of IC. When firms engage in many process management activities, exploitative innovations outstrip exploratory innovations. Network researchers have looked at the effects of social capital and network structure on exploration and exploitation. "Social capital" indicates the potential benefits that individuals derive from interpersonal relationships (Adler and Kwon, 2002), including the diversity of information and perspectives provided by others. At the heart of the notion of social capital is social network analysis (Brass et al., 2004), which assumes that individuals do not exist in isolation but are part of a network of relationships (Zhou et al., 2009). Vanhaverbeke et al. (2007) researched the influence of direct or indirect ties on exploration and exploitation and examined redundant or non-redundant ties between firms regarding technological exploitation and exploration using data from technological alliances. Several other studies have focused on the relationship and processes of exploitation and exploration from the perspective of social network structure (e.g., Lazer and Friedman, 2007). In sociology after the 1930s, network theory was an outgrowth of social network theory, and research was conducted to measure the characteristics and patterns of social relationships in individuals' personal lives and social organizations (Burt, 1992). Recently, scholars have also coined the term "social capital" to refer to potential benefits that individuals derive from relationships with others (Adler and Kwon, 2002). One such benefit is the diversity of information and viewpoints provided by others. At the heart of the social capital notion is social network analysis (Brass et al., 2004), which begins with the assumption that individuals do not exist in isolation but are part of a network of social relationships (Zhou et al., 2009; Hahn et al., 2015).

Recent studies on the "small world network" have shown that these two views are complementary (Schilling and Phelps, 2007), indicating that organizations should include a mixture of closure and bridging ties.

Even though scholars have been studying this topic since the publication of March's (1991) seminal paper, the relationship between exploration, exploitation and organizational performance is still not straightforward (Auh and Menguc, 2005; Siggelkow and Rivkin, 2006; Lavie et al., 2011). The general idea is that both exploration and exploitation have

the potential to enhance organizational performance. However, the likelihood and the nature of such gains vary across activities and depend not only on the interplay of organizational (e.g., Lin et al., 2007) and environmental (Venkatraman et al., 2007) contingencies, but on the specific approach adopted to balance exploration and exploitation, too (Lavie et al., 2011). From this viewpoint, more empirical research is needed to ascertain the multifaceted performance implications of exploration and exploitation. The theoretical framework of exploration and exploitation is still in its developmental phase, and there are three challenges that call for further research (Lavie et al., 2010). The first is related to the generalizability of the findings. In this case the literature is looking for the best conceptualization, operationalization, and context in which to study exploration and exploitation (Lavie and Rosenkopf, 2006). The second is associated with the discussions in the literature, regarding not only the best model to balance exploration and exploitation, but also the importance of intentionality in managing this balance (Vera and Crossan, 2004). As a matter of fact, a final concern is whether organizations benefit from overcoming the exploration-exploitation dichotomy, and why some organizations tend to pursue exploration while others opt for exploitation (Smith and Tushman, 2005; Andriopoulos and Lewis, 2009; Lavie et al., 2010, 2011).

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Exploitation

The exploitation of competences includes things like efficiency and development process and it promotes “the refinement and extension of existing competences, technologies and paradigms exhibiting returns that are positive, proximate and predictable” (March, 1991). Exploitation involves investing resources to refine and extend existing product innovation knowledge, skills and processes. It is through research and development processes that existing competences are shared across firm boundaries to generate synergy (Garcia et al., 2003), with the object of obtaining greater efficiency and reliability regarding existing innovative activities (Soosay and Hyland, 2008). However, although standardizing processes can increase efficiency, it also involves an aversion to risk, which provides a motivation to stick to development activities that have proven successful in the past (Miller et al., 2006). To sum up, the exploitation of competences focuses on using and developing existing capabilities, promoting improvements in existing components and building on existing technological elements (Benner and Tushman, 2003; Rust et al., 2002). Similarly, exploitative innovation is aimed at improving existing product-market domains. It is associated with mechanistic structures, tightly coupled systems, path dependence, routines, control and bureaucracy, and stable markets and technologies (Ancona et al., 2001). According to Gupta et al. (2006a, 2006b), the term “exploitation” should be reserved for activities in which the central aim is to use existing knowledge rather than following any kind of learning trajectory.

Exploration

The exploration of competences, which involves investing resources with the aim of acquiring entirely new knowledge, skills and processes (Atuahene-Gima, 2005), is defined as “experimentation with new alternatives having returns that are uncertain,

distant and often negative” (March, 1991) and involves risk-taking and experimenting. As such, it is associated with radical innovations (Jansen et al., 2006), because of its focus on emerging new customers and market needs (Cho and Pucik, 2005), which suggests that innovations are more exploratory in nature when a firm has less advance knowledge regarding the probability of developing and marketing a specific innovation successfully (Greve, 2007). Exploration is associated with ground-breaking improvisation, autonomy and chaos, and emerging markets and technologies. It is motivated by a desire to discover something new (Yalcinkaya et al., 2007) and, as such, an explorative capability focuses on the “research” aspect of the R&D process (Garcia and Calantone, 2003). Also, an exploratory innovation is a technological innovation aimed at entering new product-market domains. According to March (1991), the essence of exploration is experimentation with new alternatives. The exploration of competences thus involves looking for knowledge to venture onto a different technological trajectory (Atuahene-Gima, 2005).

The importance of both exploitative and explorative capabilities notwithstanding, exploitation focuses on short-term success but over-looks long-term viability, whereas exploration focuses on long-term outcomes but neglects immediate ones (Atuahene-Gima, 2005; March, 1991).

Drawn from the extended resource-based view (Yang and Li, 2011), competence exploration and competence exploitation are developed through investing organizational internal resources and by absorbing these from the external network. In other words, the development of either competence exploration or competence exploitation reflects an organizational attitude that is demonstrated in its investment decisions and its resource allocation decisions.

3. The Mediating Role of Creativity and Innovation Capability

3.1 Innovativeness, Innovation and Innovation capability

The concept of innovation suggests that firms make greater use of external knowledge and increasingly collaborate with a variety of external partners (Chesbrough, 2003; Mortara and Minshall, 2011). Firms search more broadly and deeply across different types of external knowledge sources (e.g. Laursen and Salter, 2006; Chiang and Hung, 2010; Drechsler and Natter, 2012; Köhler et al., 2012; Garriga et al., 2013). An obvious risk associated with such openness lies in the fact that resources are made available for

others to exploit. This might make it more difficult to protect the innovative efforts of firms and to capture benefits that accrue from collaborative and shared innovative efforts (Helfat and Quinn, 2006; Dahlander and Gann, 2010; Huizingh, 2011; Zobel et al., 2017).

Thompson defines innovation as “the generation, acceptance, and implementation of new ideas, processes, products, or services”. Innovation activity is a complex process that occurs over several stages, ranging from basic research to market penetration of new products (Hollenstein, 1996, 2003).

The innovativeness describes “a firm's propensity to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes” (Lumpkin and Dess, 1996, p. 54). It is a critical part of the innovation process, where the cultural “openness to innovation” is particularly relevant.

For Lawson and Samson (2001) IC is the ability to mold and manage multiple capabilities. They conceive it as higher-order integration or the capability of integrating the firm's key capabilities and resources to stimulate innovation successfully.

However, before companies try to improve their processes of innovation and new product development they must improve the areas of leadership, people, and partnerships, as well as the organizational capability to learn and innovate (Dadfar et al., 2013). In addition to product innovation, organizational innovation is also investigated so as to deliver a wider picture of the innovation performance of SMEs. There is a lack of studies on organizational innovation in the current literature on business innovation modes, which is more focused on technological innovations that comprise (significantly) new products and processes (Lam, 2005; Damanpour and Aravind, 2012; Apanasovich et al., 2016).

3.2 The Impact of Exploitation and Exploration Capabilities on Innovation Capabilities

A well-known classification of innovative competences or IC and search modes is that which distinguishes between exploration and exploitation (March 1991). Exploratory invention requires distant search and a departure from the firm's store of current skills and capabilities. Conversely, exploitation leverages a firm's existing knowledge. That is, incremental innovative capabilities draw upon *reinforced* prevailing knowledge, whereas

radical innovative capabilities draw upon *transformed* prevailing knowledge (Subramaniam and Youndt, 2005).

According to Andriopoulos and Lewis (2009) innovation tensions also may trigger traps, vicious cycles that stem from increasingly one-sided focus on either exploitation or exploration. Firms tend toward homogeneity, finding comfort as they develop mindsets and routines supporting one form of innovation, escalating their efforts in their preferred mode to the neglect of the other (Smith and Tushman 2005).

More recently, both exploitation and exploration have usually been observed as IC (Atuahene-Gima and Murray, 2007; Marín-Idárraga et al., 2016).

Ancona *et al.* (2001) suggest that DC's are rooted in exploitative and explorative innovations. Colbert (2004) argues that the interaction between exploration and exploitation reflects a complex capability that provides an additional source of corporate advantage beyond those provided by each innovation activity individually.

Each successful organization exploits available resources and explores new knowledge and opportunities. Therefore, ambidexterity increases organization performance and IC (Levinthal and March 1993; Shahhoseinis and Ramezani, 2015).

Consequently, exploitation and exploration have a positive influence IC (Cao *et al.*, 2009; Marín-Idárraga et al., 2016). Exploitative innovation enhances and improves available knowledge and skills. In contrast, exploration discovers new ideas (March 1991). Creativity and innovation are critically important for companies seeking to survive and thrive in today's highly turbulent business environments, which have become increasingly complex and dynamic (Chen, Preston, & Xia, 2010; Houghton & DiLiello, 2010). In view of the innovation, exploration, and exploitation of IT companies, novel knowledge can increase the potential for variety, flexibility, and novelty in product innovation. Namely, some firms develop more explorative or more exploitive product innovations (Calantone & Rubera, 2012; Yang & Li, 2011; Seo et al., 2015).

Li, Vanhaverbeke, and Schoenmakers (2008) suggest that exploration and exploitation activities reflect the nature of the innovation process rather than the nature of the outcome. According to these authors' suggestion exploration and exploitation activities are defined from an innovation process perspective. An innovation process may include both exploration and exploitation activities (Li et al., 2008). Indeed, prior research suggests that exploration and exploitation activities have different roles in the innovation process

and influence different innovation outcomes. Exploration seems to be more important for achieving differentiated and innovative outcomes, while exploitation is more likely to contribute to cost efficiency and profit gains, efficiency in producing the product, and to its quality (Kim & Atuahene-Gima, 2010; Molina-Castillo et al., 2011; O’Cass et al., 2014). Exploration activities are characterized by search, experimentation, and investigation, and can result in new knowledge. This new knowledge, generated through exploration activities, is essential to develop radically new solutions (Atuahene-Gima, 2005). Indeed, prior research shows that exploration activities stimulate the development of product characteristics such as differentiation (Kim & Atuahene-Gima, 2010; O’Cass et al., 2014) and innovativeness (Molina-Castillo et al., 2011; Tabeau et al., 2016).

Consequently, the following hypothesis are proposed:

H1: There is a positive impact of exploitation capabilities on innovation capability

H2: There is a positive impact of exploration capabilities on innovation capability

3.3 Creativity

3.3.1 Concept and importance of Creativity and Creative Culture

Amabile (1983, p. 243) explains creativity as “A novel and appropriate, useful, correct, or valuable response to the task at hand and the task is heuristic rather than algorithmic.” and the creative process is the interrelationship of three elements: person, task, and organization (Kao, 1991; Kao and Liang, 2001).

In recent years, numerous studies have attempted to find and explore the relationship between individual creativity and several factors (Chae et al., 2011; Hirst et al., 2009; Shin et al., 2012). Amabile's (1996) componential theory of individual creativity includes three major components of individual (or small team) creativity, each of which is necessary for creativity in any given domain: expertise, creative-thinking skill, and intrinsic task motivation. Componential theory suggests that creativity is most likely to occur when people's skills overlap with their strongest intrinsic interests- their deepest passions - and that creativity will be higher as the level of each of the three components increases (Amabile, 1996; Liu et al., 2016).

Its culture is a critical aspect of the firm's informal structure and it influences innovativeness (Teece, 1996; Tellis et al., 2009). Creative culture facilitates innovative solutions to competitive threats (Amabile and Khaire, 2008), especially as environmental

turbulence increases. Studies show that creativity may support adaptation through improvisation (Vera and Crossan, 2004), and creative culture represents an important prerequisite to innovate (Plambeck and Weber, 2009).

A literature review (Pandey and Sharma, 2009) of current research on the determinants of innovation indicates that the most important determinant identified for supporting creativity and innovative culture in an organization is management support for innovation and an innovative culture.

Fadaee et al. (2014) discusses creativity and innovation capability and defines them such that creativity is an intellectual activity needed to create new ideas, and innovation capability is converting creativity to action or result. On this point, Roberts and Armitage (2015) and Wang et al. (2012) say that a creative person can be innovative and have new ideas but cannot supply or sell them. So, a creative person is often an innovator, but all creative people are not necessarily innovative (Fadaee et al., 2014; Roberts and Armitage, 2015).

Creativity makes an important contribution to performance, but this impact may be somewhat indirect. The impact of the generation of new ideas is potentially expressed in new and successful innovations (Baum et al., 2004), which in turn can improve performance. According to Baum (2004), EO might mediate and transfer the creativity effects to performance. However, EO might not mediate but boost these impacts throughout the innovativeness link that can be found in the EO concept, along with risk taking and proactiveness. Within organizational studies, creativity has been recognized as an important organizational element in several seminal works (see, e.g., Mintzberg, 1973; Morgan, 1986; Blomberg et al., 2017). However, while these classic studies recognize the importance of creativity per se, they nevertheless perceive it as only one factor among others. Therefore, as Sundgren and Styhre (2007, p. 219) have put it, “an important step in understanding creativity in an organizational context is to take a more holistic approach and use the concept of organizational creativity”.

3.3.2 The Impact of Exploitation and Exploration Capabilities on Creativity

Ever since March's (1991) seminal research, studies have sought to understand the tension between a focus on maximizing efficiency and productivity (i.e., exploitation) and a focus on learning, creativity, and innovation (i.e., exploration).

In considering team-level influences, a key element in this analysis is recognizing that the differing priorities of creativity and in-role performance have strong parallels in the differing priorities emphasized for exploration (a focus on learning and innovation) and exploitation (a focus on efficient performance on more creative-thinking skill, and intrinsic task motivation, Lavie, Stettner, and Tushman, 2010; March, 1991). Just as employees strive for individual performance and creativity, the teams in which they work can place varying emphasis on exploration or exploitation goals to achieve these outcomes (e.g., Beckman, 2006). Eriksson (2014) suggests that change in operational capabilities might mediate the relationship between DCs and performance. According to Andriopoulos and Lewis (2009) and Chang and Chen (2013), creativity could be one of these change capabilities. Even if creativity is at the beginning of an innovation process (Amabile, 1996; Zhang and Bartol (2010) and Preda (2014), DCs can influence and determine creativity (Andriopoulos and Lewis, 2009; Chang and Chen, 2013), thereby mediating the relationship between DCs and innovation.

Audia and Goncalo (2007) consider that the theory of exploration-exploitation is potentially useful for understanding the creative process because it incorporates past success as a factor that impacts the propensity to explore new ideas.

According to March (1991), Levinthal and March (1993) and Hernández-Espallardo et al. (2011) individuals and organizations are sensitive to the risks inherent to exploration and exploitation. They will be especially inclined to take the risks inherent to exploration when they are still searching for adequate solutions.

However, following success in their endeavors, they are likely to prefer exploitation over exploration because exploitation of knowledge has proven to be a guarantee of more certain results and therefore reduces the risk that their efforts will lead to dead ends (Audia and Goncalo, 2007). Apparently, exploration may be riskier, and exploitation could have real effects on creativity that leads to achieving innovation in existing products (Raisch and Birkinshaw, 2008). At the same time, Park et al. (2012) suggest that in the context of a team, exploitation could have a higher impact on creativity, especially in where the team has high cohesion. Applying this argument to creativity leads to the prediction that successful people should favor the creativity that results from exploration and exploitation, that is, from refining previously used combinations of familiar knowledge (Audia and Goncalo, 2007), combined with resources to acquire entirely novel knowledge and skills.

According to Audia and Goncalo (2007) and Lisboa et al. (2010) it is natural to assume that exploration and exploitation activities are related to creative activity and, thus, to individual creativity. Exploitation and exploration have been common themes in recent studies investigating organizational adaptation to environmental changes (Gupta et al., 2006a, 2006b). Theories regarding exploitation–exploration are potentially useful for understanding the creative process because they incorporate past success as a factor in the propensity to explore new ideas (Audia and Goncalo, 2007). Therefore, Andriopoulos and Lewis (2009) support the idea that DCs are antecedents of creativity.

Consequently, the following hypothesis are proposed:

H3: There is a positive impact of exploration capabilities on Creativity

H4: There is a positive impact of exploitation capabilities on Creativity

3.3.3 The Impact of Creativity on Innovation Capability

Creativity is commonly defined as the ability to produce work that is both novel and useful (or appropriate) in a given domain (e.g., Amabile, 1996; Sternberg and Lubart, 1999; Rietzschel et al., 2016). Thus, creativity requires the generation and expression of ideas that are somehow new, original, or surprising (at least within the context in which they are generated and expressed), but also feasible, practical, or sensible. While this definition is context-independent, and hence could apply equally well to creativity at work and to creativity displayed in non-work settings, organizational creativity has been defined as “the creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system” (Woodman et al., 1993, p. 293).

In fact, creativity is an important element of innovation. A company needs processes, operations, and structures that enable the timely and efficient performance of projects so that its wares are genuinely innovative (Von Stamm, 2008). Invention is an execution of successful creative ideas in an organization (Alise and Oddane, 2015; Knight and Harvey, 2015; De Sousa et al., 2012; Sutanto, 2017).

Although creativity is often mentioned together with the concept of innovation, especially in the context of organizations, they are not the same. Innovation is defined as “the intentional introduction and application within a job, work team or organization of ideas, processes, products or procedures which are new to that job, work team or organization

and which are designed to benefit the job, the work team or the organization” (West and Farr, 1990, p. 9).

IC has become crucial to enable organizations to achieve long-term performance. As innovation is defined as the successful implementation of creative ideas (Gaspersz, 2005; Woodman et al., 1993, cited by Klijn and Tomic, 2010), so creativity is seen as the cornerstone of innovation. Although considered insufficient, individual and group creativity re- present the starting point for innovation (State and Iorgulescu, 2014).

The first step to any innovation requires creativity: “all innovation begins with creative ideas” (Amabile, 1996, p. 1154), and without creativity, “there is no potential for innovation” (Howard et al., 2011, p. 160). This is equally true in the specific context; creativity is an integral part of service development (Zeng et al., 2009).

According to Sarooghi et al. (2015) creativity is the seed of all in- novation. The successful creation of new products, new services, or new business practices starts with a person or a team thinking up a good idea—and developing that idea beyond its initial state (Amabile et al., 1996; Baer, 2012). The literature defines creativity as the generation of novel and useful ideas (Amabile, 1996; West, 2003). In contrast, in- novation is distinguished from creativity by the implementation, rather than the mere generation, of ideas (Péres-Luño et al., 2011; Zacher and Rosing, 2015). Idea implementation encompasses activities such as selling ideas, mobilizing sponsorship, gathering the necessary re- sources, creating the innovation, and introducing the innovation to the marketplace (Axtell et al., 2000).

The creativity is a core element of successful IC (Oke, 2007), as complex processes, such as the development of new products/services, require some anarchy, improvisation and internal competition (Edvardsson et al., 1995). Consequently, new skills, competences, organizational tools and resources for creativity represent a key contribution to a more comprehensive, systemic and social approach to service IC (Rubalcaba et al., 2012; Giannopoulou et al., 2014).

A market recently created or shaken by a radical or architectural innovation is likely to see higher investments in product innovation than one where a dominant design has developed in which case in- vestments in process innovation are higher (Henderson and Clark, 1990; Utterback, 1994; Schilling, 2010), yet some industries never develop a dominant design (Srinivasan et al., 2011). Windows of opportunity can also develop due

to changes in macro factors other than technological ones, such as political and environmental factors (Van de Ven and Garud, 1994, for applications see e.g., Hugel-Brodin and Anderson, 2008; Sundin, 2009).

In sum, creativity research suggests that both fluid and crystallized cognitive abilities predict employee creativity and innovation (e.g., Batey, Chamorro-Premuzic, and Furnham, 2009; Nusbaum and Silvia, 2011a), with fluid abilities probably having a stronger effect on creativity and crystallized abilities probably having stronger effect on innovation-related behavior (e.g., idea implementation; Ng and Feldman, 2013).

Creativity is the beginning of an innovation process (Im et al., 2013). However, creativity and IC mediate the relationship between dynamic capabilities and competitive advantage and SMEs' performance. According to Gupta and Banerjee (2016) creativity and innovation work together to give an organization CA. However, there is a clear distinction between the two. While creativity is the generation of novel and original ideas (see DiLileo, Houghton, 2006), innovation is the implementation of them in a work setting (see West, 2002). There are different stages of innovation implementation, namely, the initiation stage, implementation stage, adaptation stage and stabilization stage. Creativity forms an essential component of the first stage of innovation, i.e., the initiation stage (see West, 2002). Researchers now have empirical evidence that creativity could be an essential component of IC (see Liang, Chia, 2014).

Consequently, the following hypothesis is proposed:

H5: There is a positive impact of creativity on Innovation Capabilities

3.3.4 The Impact of Innovation Capabilities on Competitive Advantage and Performance

IC can enhance the firm performance in several aspects. Four distinct performance dimensions, in particular, are employed in the literature to represent firm performance (Narver and Slater, 1990, 2002; Akman and Yilmaz, 2008).

These dimensions are innovative performance, production performance, market performance and financial performance. IC has a considerable impact on corporate performance by producing an improved market position that conveys CA and superior performance (Walker, 2004).

Many studies focusing on the innovation-performance relationship provide a positive appraisal of higher innovativeness resulting in increased CA and superior performance (Calantone, 2002; Wu et al., 2003). As suggested by previous literature (e.g., Laursen and Salter, 2006; Chiang and Hung, 2010; Drechsler and Natter, 2012; Köhler et al., 2012; Garriga et al., 2013; Salge and Vera, 2012; Ching-Hsun and Yu-Shan, 2013), the degree of openness in innovation of firms can be conceptualized in terms of the breadth and depth of their external search strategies. External search breadth concerns the diversity of external sources of knowledge for innovative activities (different categories of firms, universities, and research or technology institutions, as well as other specialized sources such as conferences or trade fairs). External search depth is understood in terms of the importance of these external sources of knowledge. Both external search breadth and depth can then characterize a firm's degree of openness in its innovation process.

According to Calantone et al. (2002) and Hult et al. (2004) and Isobe et al. (2004) IC is the most important determinant of an organization's performance.

Innovation is seen as a strategic asset since helps to improve competition advantage and firm performance (Kalmuk and Acar, 2015a, 2015b). ICs are frequently regarded as important means of achieving superior performance in very competitive environments (Lyon and Ferrier, 2002).

Hurley and Hult (1998) hold the view that innovation and the capacity to implement innovations determine whether the organization will achieve superior performance.

For Kalmuk and Acar (2015a, 2015b) firms which combine capacity to innovate and resources are more successful in responding to their business and developing new capabilities, which leads to CA and greater IC, resulting in superior performance.

All in all, several studies have examined the relationship between IC and firm performance (Calantone et al., 2002; Jimenez-Jimenez and Sanz-Valle, 2011; Tutar et al., 2015) and supported the idea that innovation is a key driver of firm success.

Moreover, as suggested by previous literature (e.g., Laursen and Salter, 2006; Chiang and Hung, 2010; Drechsler and Natter, 2012; Köhler et al., 2012; Garriga et al., 2013; Salge and Vera, 2012), the degree of openness in the innovation of firms can be conceptualized in terms of the breadth and depth of their external search strategies.

Mogollón and Vaquero (2004) interpret firms' innovation efforts as evidence of their increasing awareness of innovation as a source of CA. Thus, many authors see innovation,

CA and performance as inter-connected concepts and processes, and their interrelationship has been widely studied and analyzed (see, e.g., Porter, 1994; Teece and Pisano, 1994; Tidd et al., 2001; Roberts and Amit, 2003; Short et al., 2007; Newbert, 2007; Marques and Ferreira, 2009). Even if the links between these two variables are widely supported, the role of IC is crucial, mediating the relationship between DCs and performance and competitiveness (Gupta et al., 2006a, 2006b; Li et al., 2010; Lin et al., 2013).

Accordingly, Han et al. (1998) suggest that a market-oriented firm is likely to be innovative, which in turn leads to achieving superior performance. At the same time, the literature shows that there is a positive relationship between innovation and performance (Jiménez-Jiménez and Sanz-Valle, 2011; Thornhill, 2006; Weerawardena et al., 2006; Schulz and Jobe, 2001). Consequently, the following hypotheses are proposed:

H6: There is a positive impact of Innovation Capabilities on Competitive Advantage

H7: There is a positive impact of Innovation Capabilities on Performance

3.4 The moderating role of Entrepreneurial Orientation

3.4.1 What is Entrepreneurial Orientation?

According to Hult and Ketchen (2001, p.78), the EO reflects a firm's propensity to engage in “the pursuit of new market opportunities and the renewal of existing areas of operation”. It promotes values such as being highly proactive toward market opportunities, tolerant to risk and receptive to innovations (Matsuno et al., 2002; Zhou et al., 2005). Many studies focus on identifying the determinants of small-firm performance to help business owners enhance small-business growth (Rauch et al., 2009; Blackburn et al., 2013; Stam et al., 2013). Recurrent debates in the literature associate the personal traits of business owners (Baum and Locke, 2004; Poon et al., 2006; Rauch and Frese, 2007) with firm-level entrepreneurial orientation (EO) (Poon et al., 2006; Wiklund et al., 2009) and small-firm performance. EO concerns the process by which strategy-making policies and practices are used by firms to identify and launch new ventures (Miller, 2011). Miller and Friesen (1982) contend that executive goals and traits are central to driving a firm's EO. Some studies posit that EO is more important than personal traits (Aldrich and Wiedenmayer, 1993; Sandberg and Hofer, 1987), whereas other researchers note the central role of entrepreneurial traits in achieving small-firm performance (Baum and Locke, 2004; Chakravarthy and Lorange, 2008; Naffziger, 1995; Sexton, 2001). In

the present study, two entrepreneurial traits were associated with EO to clarify their interrelated associations with small-firm performance: entrepreneurs' beliefs regarding their capabilities to contribute to firm growth (Baum et al., 2001; Baum and Locke, 2004; Hmieleski and Baron, 2008; Hmieleski and Corbett, 2008). EO is an entrepreneurial process by which creative ideas are implemented within an organization, thus leading to firm performance (Ahlin et al., 2013; Fillis and Rentschler, 2010; Matthews, 2007; Ward, 2004). However, individual-level motivation (Lam, 2011; Hayter, 2015) is another important determinant of engagement in commercialization activity: the presence of three pivotal entrepreneurial capabilities (Rizzo, 2014). Rasmussen et al., (2011, 2014, 2015) describe three competencies required for new venture creation to succeed. First, identification and development of an opportunity, which is closely linked to opportunity recognition as a prerequisite for new venture creation (Shane, 2000). Their business knowledge and experience mean that external entrepreneurs tend to be better at identifying business opportunities and potential markets (Franklin et al., 2001; Lockett et al., 2005). Second, someone to champion the venturing process and attract business and managerial expertise (Visintin and Pittino, 2014; Gupta et al., 2006a, 2006b; Wright et al., 2004; Clarysse and Moray, 2004; Würmseher, 2017). Third, the acquisition, combination and organization of the resources needed for commercial exploitation of the opportunity. This applies not just to the resources that are directly related to the innovation in question (e.g., technical equipment, human resources, and the financial capital needed to prepare a prototype).

3.4.2 The moderating role of Entrepreneurial Orientation on Innovation Capabilities and Creativity

EO is the key factor of innovation creation and implementation. EO in relation to innovation is the object of research in the context of the main components of EO: proactivity and risk taking (Perez-Luno et al., 2011), types of innovation (Boso et al., 2013a, 2013b; Liu et al., 2014) innovation process (Perez-Luno et al., 2011) and innovation performance (Alegre and Chiva, 2013; Ejdy, 2016). The literature on the link between EO and ICs suggests that the juxtaposition of EO with a market-oriented culture contributes significantly to successful innovation (Slater and Narver, 1995).

Empirical evidence has shown that EO is one of the crucial resources of a firm and it has a significant impact on its ability to adapt to environmental changes by providing different types of innovation (Hong et al., 2013; Li et al., 2008a, 2008b). According to the relevant

literature, firms that have an EO are characterized by risk-taking, proactiveness and innovativeness (Baker and Sinkula, 2009; Jones and Rowley, 2011; Miller, 1983; Wales et al., 2013), enabling them to understand the requirements of both market and customers and satisfy the needs of both through innovations (Baker and Sinkula, 2009; Boso et al., 2012a, 2012b; Aljanabi et al., 2015).

In the literature, EO is considered an entrepreneurial process promoted by business owners and triggered by their individual creativity and self-efficacy (Fillis and Rentschler, 2010; Matthews, 2007; Poon et al., 2006; Shane and Nicolaou, 2014).

Therefore, creativity is associated with general self-efficacy, which is defined as an entrepreneur's belief about their ability to reach designated levels of performance (Prabhu et al., 2008; Khedhaouria et al., 2015; Giampaoli and Ciambotti, 2016).

EO involves a willingness to innovate, look for risks, take self-directed actions, and be more proactive and aggressive than other competitors towards new marketplace opportunities (Wiklund and Shepherd, 2005). EO is expected to create an internal culture capable of stimulating creativity and innovativeness, boosting the outcomes of this relationship. According to Baum et al. (2004), creativity acts like a raw material that can be strengthened through an EO culture and EO processes.

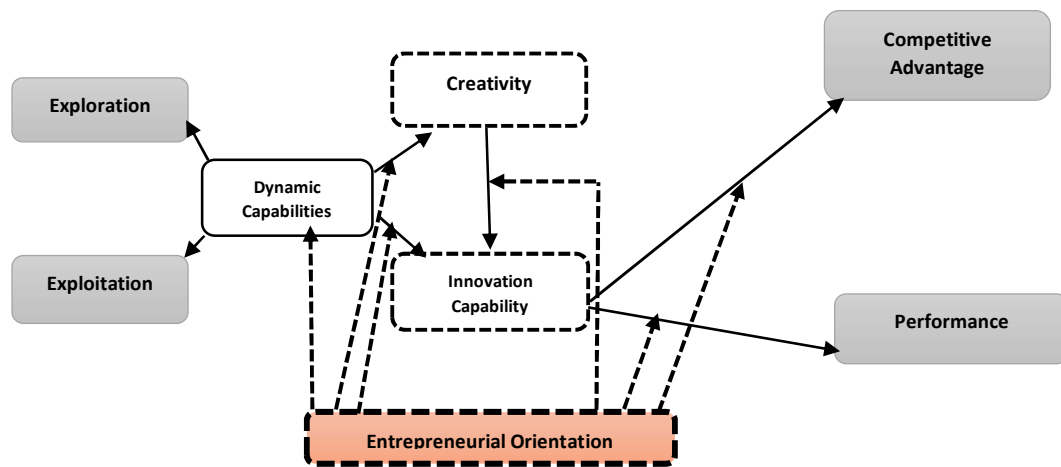
3.4.3 The moderating role of Entrepreneurial Orientation on the impacts of Exploration and Exploitation capabilities

According to Lisboa et al. (2010), EO can provide a favorable setting for product development exploitative capabilities to grow. Entrepreneurial firms are prone to embracing new ideas and using new methods (Barczak et al., 2009; Li and Liu 2010) and more willing to exchange ideas and adopt novel perspectives (Brockman and Morgan, 2003). They also place emphasis on the need for exploration capabilities and they introduce breakthrough innovations (Avlonitis and Salavou, 2007; Lisboa et al., 2010).

EO strengthens the relationship between exploratory innovation and firm performance (Gao et al., 2010) and, when faced with a new environment and new market, new ventures with a strong EO are inclined to look for information and knowledge inside and outside the firm to access new opportunities ahead of rivals, as well as increase the investment in learning and R&D to carry out product and services innovation (Malhotra and Birks, 1999). Furthermore, entrepreneurial orientation plays a positive moderating role between

explorative learning and technological innovation as well as between exploitative learning and management innovation (Sun et al., 2014; Bai and Ren, 2016).

Therefore, this paper holds that EO first cushions the risk associated with an unbalanced pursuit of exploitation and exploration to improve innovation performance. As firms are competing for limited resources they are faced with a trade-off situation, either a “success trap” or a “failure trap” (March, 1991); situations where a firm decides to invest heavily in exploitation means it has fewer resources available for exploration and vice versa (Stadler et al., 2014; Bai and Ren, 2016).



Source: Prepared by the Authors

Mediating effect ———→

Moderating effect - - - - -→

Figure 15 - Show the conceptual model of this research

4. Method

4.1 Sample and Data Collection

To test the proposed investigation model and the research hypotheses, data were collected via a structured questionnaire. Using information obtained from SME business associations, a total of 387 questionnaires were distributed to Portuguese SMEs and a key informant in each company was contacted with a request to complete the questionnaire. Of these, 28% were companies with fewer than 20 employees, 42% had between 20 and 50, 8% had between 50% and 100%, and 22% between 100 and 200 employees. Forty-

three percent (43%) were partnerships 42% private limited companies, and 15% single shareholder companies. In terms of lifespan, 25% were less than 10 years old, 65% between 10 and 20 years, 7% between 20 and 50 years, and 3% more than 50 years. The respondents were scattered throughout the country with no sector being specially represented.

4.2 Measures

To operationalize the variables, the researchers conducted a literature review and adapted scales used in existing studies, changing and adapting the vocabulary so that respondents could more easily understand the scales.

4.2.1 Creativity

A 13-item scale based on Zhou and George (2001) to measure creativity was used. The items were rated on a seven-point scale ranging from 1, “strongly disagree”, to 7, “strongly agree”, by employees who were familiar with employee work behavior related to the studied attributes of the work environment. Self-reported ratings were used instead of supervisory ratings of creativity. Items like “I will suggest new ways to achieve goals or objectives” or “I often have new and innovative ideas”.

4.2.2 Innovation Capability

The survey instrument asked respondents to indicate their perceptions regarding the items pertaining to brand capability, IC, firm characteristics, marketing performance and financial performance. These five items were measured using seven-point scale ranging from “strongly disagree” to “strongly agree”. Surely only one scale – the seven-point scale mentioned – is used and adapted from Hooley (2005) and suggested by Merrilees, (2011). Items like “Better at developing new ideas to help customers”.

4.2.3 Dynamic Capabilities – exploration and exploitation

DCs - exploration and exploitation - were measured using two areas, with five items each, competence exploration and competence exploitation, suggested by Atuahene-Gima (2005). Items like “Acquired manufacturing technologies and skills entirely new to the

firm” were used as well as “Upgraded current knowledge and skills for familiar products and technologies”.

4.2.4 Competitive Advantage

CA was measured by Vokurka et al. (2002), Tracey et al. (2006) and Thatte et al. (2009). They suggested cost, quality, dependability and speed of delivery as some of the critical competitive priorities. Items like “Offer prices as low as or lower than our competitors” were used.

4.2.5 Performance

Performance was measured based on Morgan et al. (2003). Two areas of the construct were involved, each having four items that showed on the exploratory and then on the confirmatory factor analysis, to load on one simple factor. The efficiency with which the firm generates cash flows and profits may also be an important accounting indicator of financial performance. This is typically captured in “Return on ...” or “re-investment” type measures that express profit and cash flow as a ratio of some measure of the capital employed or sales revenue of the firm, as well as the growth in sales and market share.

4.3 The Model

All the items were measured on a seven-point Likert scale (1 =strongly disagree to 7 =strongly agree). Confirmatory factor analysis was used to assess the psychometric properties of the scales and the measurement model fit, using AMOS 21. The final model shows a good fit (IFI=0.927; TLI=0.919; CFI=0.927; RMSEA=0.063; CMIN/ DF=2527).

Composite reliability (CR) and the average variance extracted (AVE) were computed. All the scales showed values above 0.8 on CR and above 0.7 on AVE, which are in line with the recommendations (Hair

et al., 2006). Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always smaller than the variance extracted for corresponding constructs (Shiu et al., 2011), thereby confirming the discriminant validity.

Table 1 - Square Correlations, Cronbach's Alpha Composite reliability and Variance extracted

Construct	X1	X2	X3	X4	X5	X6	CR	AVE
Exploitation	0,94						0,89	0,72
Exploration	0,63	0,89					0,92	0,78
Creativity	0,60	0,50	0,88				0,95	0,83
Innovation Capability	0,42	0,43	0,48	0,88			0,91	0,76
Competitive Advantage	0,55	0,37	0,63	0,49	0,90		0,91	0,76
Performance	0,37	0,21	0,55	0,33	0,94	0,90	0,93	0,76

Source: Elaborated by the authors (2014).

Diagonal in bold - Cronbach's Alpha; CR - Composite Reliability; AVE - Average Variance Extracted

4.4 Common Method Bias

When self-administered questionnaires are used a common variance bias problem can emerge or increase (Podsakoff and MacKenzie, 2003). According to Podsakoff (2003), the common method variance (CMV) tests will help to detect the existence of variables that can cause measurement errors and systematic biases in the estimation of the relationships between constructs.

Based on the suggestions by Podsakoff and Organ (1986), a Harman's single factor test and a common latent factor (CLF) analysis were performed to capture the common variance among all observed variables in the model. The Harman's test showed that any factor could explain more than 23% of the variance and there were 11 factors with eigenvalues greater than 1, explaining 73% of the total variance. A confirmatory factor analysis was conducted restricting all items of the model to load on a common single factor (Podsakoff, 2003). The resulting fit indices show the model did not provide a good fit for the data: CMIN/DF= 5.6; IFI= 0.555; TLI= 0.535; CFI= 0.540.

4.5 Findings

Amos 21.0 was used to perform CFA and SEM to test the proposed hypotheses. The final model shows a good fit (IFI=0.921; TLI=0.913; CFI=0.921; RMSEA=0.065; CMIN/DF=2.632). A multi-group analysis was performed to test the moderation effects of EO, considering two groups: the low EO group, with 189 respondents; and the high EO group with 198 respondents. A chi-square test was performed to compare the two groups and the results show a significant difference between them. The differences

between the unconstrained model (chi-square = 2.041 D.F. = 908) and the fully constrained model (chi-square = 2.091; D.F. = 941) show that the models are different (chi-square = 49; D.F. = 33; $P \leq 0.001$; CV=50,892), and that the moderation effects are significant.

Table 2 - Estimation of the Structural Model Results

Hypothesis	Relationship	SRW	C.R.	P	SRW	C.R.	P	SRW	C.R.	P	Supported/
H1	Innovation Capabilities ← Exploitation	,081	1,860	***	,052	,675	***	,286	2,524	***	Supported
H2	Innovation Capabilities ← Exploration	,120	2,833	***	,328	4,007	***	,011	,100	,460	Supported
H3	Creativity ← Exploitation	,175	2,772	***	-,003	-,049	***	,131	1,539	***	Supported
H4	Creativity ← Exploration	,299	4,650	***	,161	3,038	***	-,030	-,343	,360	Supported
H5	Innovation Capabilities ← Creativity	,839	13,542	***	,892	9,409	***	,879	7,803	***	Supported
H6	Competitive Advantage ← Innovation Capabilities	,395	6,941	***	,316	3,716	***	,164	1,981	***	Supported
H7	Performance ← Innovation Capabilities	,664	10,137	***	,573	6,463	***	,543	5,325	***	Supported
		Global (n=387)			High EO (n = 198)			Low EO (n = 189)			

Exploration implies firm behaviors characterized by search, play, discovery, experimentation, divergent thinking and risk taking to generate new product solutions (He and Wong, 2004). Consequently, exploration rather than exploitation should increase the innovation capabilities. Even so, they both impact on innovation. Apparently, Portuguese companies are climbing rapidly in the European innovation ranking, starting from a low position and moving forward in their IC. Consequently, all factors must be pushing companies to be more innovative. Portuguese companies had higher levels of exploration (5.55) than exploitation (5.376), which is significant in a scenario where small companies prevail. That is why exploration has such an impact on IC (0.120 against 0.81). The results are in line with the literature, which, more specifically, shows exploration is the pursuit of new ideas and the ability to adapt, whereas exploitation requires efficiency, alignment, and continuous improvement of processes and products that are already successful. For example, leaders are required to balance “opening” activities (exploration)

such as creating a vision that motivates experimentation with “closing” behaviors (exploitation) such as rewarding efficiency (Rosing, Frese and Bausch, 2011). Exploration and exploitation activities are both vital for long-term performance, but their activities are inherently in conflict with one another (Andriopoulos and Lewis, 2009; Sheremata, 2000). Furthermore, it is not enough to find a compromise or split between exploration and exploitation; it is better to excel at both independently (Andriopoulos and Lewis, 2009; Atuahene-Gima, 2005). A recent meta-analysis of 108 studies on exploration and exploitation found that high-tech industries have a harder time balancing exploration and exploitation than low-tech industries, providing more evidence for the unique demands of leading innovation versus managing more routine tasks (Fourne et al., 2016; Hunter et al., 2017).

When the moderating impacts of EO are introduced, exploitation retains a significant impact on innovation, but this is higher for lower EO companies ($srw = 0.052$ against $srw = 0.286$). However, in the case of exploration, the impact is significant only for the high EO group ($srw = 0.328$ against $srw = 0.011$; $p = .460$). which is in line with previous comments: exploration has the potential to boost IC, helping companies that are falling behind existing product-market positions, especially when there is an EO culture inside the company (Goel and Jones III, 2016).

Previous studies have shown that while exploration and exploitation could be seen as opposing activities along a continuum (Lavie et al., 2010), both are important dimensions of entrepreneurial actions that affect firm performance (e.g., Gupta et al., 2006a, 2006b) and interact with the firm's environment (e.g., munificence and dynamism; Jansen et al., 2005) and organizational resources (Lavie et al., 2010; March, 1991). Furthermore, they are guided by management capabilities and preferences (Helfat and Peteraf, 2009; Goel and Jones, 2015).

5. Dynamic Capabilities and Creativity

Exploitation and exploration have a positive impact on creativity, thus supporting H3 (0.120 ; $P = ***$) and H4 (0.299 ; $P = ***$).

According to previous studies, exploration-exploitation are potentially useful for understanding the creative process because they incorporate past success as a factor that impacts the propensity to explore new ideas (Audia and Goncalo, 2007).

According to the literature, exploration relates to search, discovery, invention and the creation of knowledge beyond an organization's business-as-usual activities. In contrast, exploitation relates to repetition, implementation, refinement, and the efficient use of existing knowledge. Consequently, according to the literature, exploration has a higher impact (0.299) than exploitation (0.175) on creativity, showing

that willingness to go beyond present knowledge requires more creativity (Seo et al., 2015), especially when companies are small and lack resources to invest in innovation.

Whereas individual creativity and performance are largely studied separately from each other, research in exploration and exploitation have considered similar issues at a higher level of analysis (i.e., the team or organization; Lavie et al., 2010). Ever since March's (1991) seminal research, studies have sought to understand the tension between a focus on maximizing efficiency and productivity (i.e., exploitation) and a focus on learning, creativity, and innovation (i.e., exploration). The literature on exploitation and exploration describes performing one's work efficiently by exploiting available resources compared with exploring new activities as a basis for creative endeavors culminating in innovations (Gibson and Birkinshaw, 2004). Exploitation involves refinement, efficiency, and improvement that reduce variance and increase reliability and control, whereas exploration requires search, variation, and experimentation that foster innovative processes (Beckman et al., 2004; Benner and Tushman, 2003; Gupta et al., 2006a, 2006b; Hirst et al., 2015).

Exploitation and exploration have been common themes in recent studies looking at organizational adaptation to environmental changes (Gupta et al., 2006a, 2006b). Theories regarding exploitation–exploration are potentially useful for understanding the creative process because they incorporate past success as a factor in the propensity to explore new ideas (Audia and Goncalo, 2007; Hahn et al., 2015). Lazer and Friedman (2007) argued that exploitation is related to how information diffusion influences performance, whereas exploration is related to information diversity's effects on performance. Further, using social network theory, Perry-Smith and Shalley (2003) studied the association between the context of social relationships and individual creativity. They suggested that members with stronger connections to the external environment are more often exposed to varied viewpoints and thoughts, and therefore they more easily produce creative ideas. Song et al. (2007) used degree centrality and structural holes in their study of the effect of network structure on a working unit's

creativity. Structural holes imply that the benefits of an individual's information depend on how many chances s/he has to make contact with unduplicated connections (Burt, 1992).

As such, they can convey both a message as to the desirability and appropriateness of a focus and an emphasis on efficient performance or exploration to stimulate creativity, and thus stimulate these outcomes at the individual level.

These results related to exploration are valid only for the group with low EO (srw= -0.003 against srw= 0.13) which shows that an entrepreneurial culture makes exploration the norm in the internal culture, which is very friendly to creativity (March, 1993; Hirst et al., 2015). In the case of exploitation, these results are significant for the low EO group. As matter as fact, high EO companies are rather creative and innovative, so when they adopt this ambidextrous behavior and become more exploratory, their creativity may increase. Apparently, high EO companies can be more exploratory while less entrepreneurial companies can be more conservative and exploitative (srw= 0.161 against srw= -0.030, respectively), therefore with lower impacts on creativity.

These results are in line with the literature, where the moderating role of EO between self-efficacy and firm performance is suggested by Poon et al. (2006), who explains that entrepreneurs with high self-efficacy levels can deal with a variety of stressful situations and acquire the necessary resources from the environment. These resources can then be allocated to proactive and innovative projects that enable the firm to exploit rich opportunities and achieve superior performance (Rosenbusch et al., 2013). Similarly, Rosenbusch et al. (2013) suggest that EO moderates the relationship between creativity and firm performance. To explore and exploit new ideas firms must adopt proactive and innovative strategies (Puhakka, 2012). Because EO emphasizes creativity, innovativeness and proactivity and the exploration and exploitation of new products and processes (Lumpkin and Dess, 1996), it is a legitimate response that increases the chances of achieving superior performance (Rosenbusch et al., 2013; Khedhaouria et al., 2015).

6. Creativity and Innovation Capability

There is a positive relationship between creativity and IC, therefore supporting H5, (0.839; P = ***).

Creativity is the seed of all innovation. The successful creation of new products, new services, or new business practices starts with a person or a team thinking up a good idea and developing that idea beyond its initial state (Amabile, 1997; Baer, 2012). Converting

creative ideas into actual new products and processes has long been considered a key challenge in the management of innovation.

Previous studies have found that creativity in its most basic form is about idea generation and innovation, and the implementation of ideas. Accordingly, creativity research usually examines antecedents to idea generation and often stops at the point where novel and useful ideas, processes or products have been developed to the point where one or more might be implemented – whereupon the baton is passed to the innovation team (Amabile, 1988). Because the number of options produced has been associated with a greater likelihood of getting something worth implementing (Campbell, 1960; Simonton, 2003), creativity research has often focused on producing a big pool from which innovation processes can draw (e.g., Osborn, 1957; Van Dijk and Van den Ende, 2002). Moreover, the fact that the selection of ideas for implementation can be a complicated and political process (Staw, 1995) suggests that at least some of the leftover ideas may be as good as, or even better than those that make it through to become innovations. This short article has proposed developing a better understanding of samples of ideas, which have elsewhere been labelled ‘collections’ (Litchfield and Gilson, 2013; Gilson et al., 2017), which might serve as a point of integration between creativity and innovation research.

According to Amabile and Pratt (2016), individual creativity and organizational innovation are inextricably linked. Specifically, the creativity of individuals and teams feeds organic innovation within organizations. Without creative ideas there is nothing to implement. Indeed, recent empirical evidence shows that employee creativity relates to overall job performance (Gong et al., 2009), with obvious implications for the innovative performance of the organization.

This relationship is statistically significant for both groups, showing that creativity is important per se. This requires employees to have more individual knowledge and creative self-efficacy (Kumar and Ganesh, 2011; Tierney and Farmer, 2011) turned into IC (srw= 0.892 against srw= -0.879).

Creativity occurs in all aspects of life, from art and music to business and industrial practices that result in novel processes, ideas, services, and products. Amabile (1997, p. 40) defines creativity as the generation of novel and appropriate solutions to open-ended problems in any domain of human activity. Several countries are shifting from SMEs towards encouraging more entrepreneurship (Ko and Butler, 2006). For instance, Portugal now focuses on SMEs' entrepreneurial behavior to facilitate creativity and innovation and

avoid lagging behind other countries by shifting away from the traditional conception of SMEs (Valaei et al., 2016).

7. Innovation capability, competitive advantage and Performance

There is a positive relationship between IC, performance and CA, and consequently H6 (0.395; P = ***) and H7(0.664; P = ***) are supported. Even though there is some ambiguity and lack of clarity, according to the literature about the IC impact on CA and performance (Cheng et al., 2010; Hult et al., 2004; Guan and Ma, 2003), the results support the mainstream ideas.

According to Rios-Morales and Brennan (2009) and Tsai et al. (2013), IC can create, support and maintain CA and performance. Organizations can achieve competitive advantage by managing the pre- sent and future, reinforcing the creation of innovation (Ahuja, 2000; Martín-de Castro et al., 2013).

According to the resource-based view, innovation is a major source of competitive advantages in the era of the knowledge economy (Daghfous, 2004; Prajogo and Ahmed, 2006). IC can help companies to gain an "isolation mechanism" that protects the advantages and benefits they enjoy (Lavie, 2006). Innovation enables companies to create and deploy their ability to support long-term business performance (Teece, 2007a, 2007b). Successful innovation can make it more difficult for external imitation and allow a company to maintain its competitive advantages better (Morales et al., 2007). Therefore, innovation can affect competitive advantages and performance (Wu and Lin, 2008; Suliyanto, 2011; and Wingwon, 2012; Suharyono et al., 2014).

According to Prajogo (2016) innovation can be implemented in different forms: product innovation and process innovation. These two types of innovation have dominated most discussions and empirical studies on innovation because they have significant strategic values in delivering competitive advantage for organizations (Goedhuys and Veugelers, 2012; Jiang et al., 2013; Kraft, 1990; Shu et al., 2012; Tidd et al., 2005; Tushman and Nadler, 1986). For example, the study by Auh and Menguc (2005) shows that the level of competitiveness of the business environment influences the effectiveness of innovation orientations in predicting firms' effectiveness and efficiency performance.

Furthermore, these results are significant only for the high EO group. An EO is the context in which IC is more highly valued, where innovation is part of the DNA (Markham and Griffin, 1998; Bougrain and Haudeville, 2002; Autant-Bernard et al., 2013) and where it

may contribute more to the overall competitive advantage and performance of the organization, (srw= 0.316 against srw=0.164 and srw=-0.573 against srw=0.543, respectively). The impact of EO in an SME environment could be even more important, helping to replace the financial and material resources these companies lack.

IC offerings have become a critical factor for SMEs in emerging markets as these offerings create CA for the firm. Innovativeness concerns the propensity to introduce IC to satisfy customers and improve firm value (Dotzel et al., 2013; Bello et al., 2016). Yet developing an innovative service involves uncertainty regarding customer acceptance and competitor reactions, requiring the firm to respond decisively to changing foreign market dynamics. EO is thus a key operant resource because entrepreneurial firms are proactive and actively seek major opportunities to gain CA and performance. In the management and entrepreneurship literature, studies conclude that innovativeness is fundamentally driven by proactiveness and risk-taking (Perez-Luno et al., 2011). Thus, high levels of EO are expected to enable SMEs to develop IC offerings because entrepreneurial managers are predisposed to proactive, inventive activities.

The same idea has been conveyed by Baker and Sinkula (2009), stating that EO will lead to an increase in the level of innovation and corporate performance. Wu and Lin (2008) have found that EO has a moderating positive impact on innovation and corporate performance.

8. Discussion and Implications

The mediating effects of creativity and IC were used to better understand the links between and the ways the effects of DCs are transmitted to performance and competitiveness. DC are somewhat cultural in character (Chen and Lee, 2009) and hence their impacts on performance may be essentially indirect. Accordingly, exploitation and exploration capabilities influence a firm's overall performance indirectly (via IC) in the case of Portuguese SME firms (Troy et al., 2008). The moderating role of EO provides a specific context to explain the interactions between DCs' creativity and IC, to produce superior competitiveness and performance. This insight shows the importance of considering the role of mediating and moderating variables in theory and research models that address determinants of overall performance to avoid overestimation of the role of constructs.

The theoretical foundations are based on the idea that creativity and IC are two (of several) important capabilities that collectively enable SMEs to deploy them, using

specific resources to gain CA and performance. Based on the results of past research, this study also examines the role of exploration and exploitation as an important driver of the development and deployment of IC and creativity.

An organization's DCs depend on its ability to simultaneously exploit existing technologies and resources to secure efficiency benefits and creativity variation through exploratory innovation (Ghemawat and Costa, 1993; March, 1991; Teece et al., 1997). According to the DCs theory (Winter, 2003), organizations depend on simultaneously exploiting existing technologies and resources to secure efficiency benefits and create variation through creativity and exploratory innovation. Thus, exploitation frequently tends to drive out exploration (Atuahene-Gima, 2005) due to the high level of uncertainty involved in embarking on completely new activities. However, despite the growing interest in achieving organizational ambidexterity for a firm's long-term survival, there is no consensus in the existing literature about how to achieve such balance (e.g., Gupta et al., 2006a, 2006b; Lavie et al., 2011). DCs are applied in new ways to produce CA (Teece et al., 1997). Therefore, this paper emphasizes that capabilities leverage firm performance when mediated by creativity and IC.

9. Theoretical implications

The literature shows that little research has been produced on how DCs act and how SMEs operating in transaction economies behave to increase their competitiveness and performance. This study contributes to the theoretical literature on capabilities and creativity – innovation field in several different ways. First, this work is based on a sample of Portuguese SMEs in a transaction economy that is fast-moving in its process of internationalization and innovation.

Second, while past research offers inconclusive results about the impacts of DCs on competitiveness and performance, which may be indirect, this study highlights the distinct direct and mediating effects of creativity and IC on overall competitiveness and performance. The study sheds some light on a research stream that explains the growth of a firm through creativity and innovation for domestic markets or by entering new international markets.

Third, this research helps to close the gap in the literature on the relationships between DCs and competitiveness, and hence performance, as it shows the importance of

integrating creativity and IC in a context of uncertainty and environmental turbulence, in a transition economy.

Fourth, given the nature and dimension of the firms from such an economy, which are the bases of the sample used, it could be critical to take their EO into account to understand the proposed relationships. EO was introduced as a moderator, shaping the internal environments where these effects take place.

Finally, the investigation model developed and tested in the study shows how DCs (explorative and exploitative) use creativity and innovation expertise to impact favorably on competitiveness and performance, through creativity and IC. Resource-based theory suggests that better performance results from the interaction between a firm's knowledge resources and its capabilities (Morgan et al., 2003). This study traces the chain of effects in this respect, showing how DCs are transformed into competitiveness and performance (Helfat and Peteraf, 2003; Helfat et al., 2007; Atuahene-Gima, 2005; Eisenhardt and Martin, 2000).

10. Managerial implications

Hence, in terms of practical implications, the moderating effects reported in this study imply that managers and entrepreneurs should not pursue creative and innovative activities without taking context or contingency into account; rather, they should be aware of boundary conditions that can constrain the positive impact of creativity on innovation. First, managers and entrepreneurs have a certain degree of control over the moderating variable (EO) discussed in this study. This is possible by managing firm size, locating their R&D units in countries with specific cultural profiles, hiring individuals from countries or ethnic groups with specific cultural traits for their innovation teams, and balancing the mix between process and product innovation performed in their organizations. This implies that the link between creativity and IC can be strategically managed to a certain degree.

SME managers and entrepreneurs must seek to innovate constantly to sustain and renew their firms' CA. Firms that go international can use location-specific and specialization advantages to become more innovative (Nieto and Rodríguez, 2011). Because innovation is increasingly dispersed across borders, SME managers must understand how they can nurture and facilitate creativity and innovation, looking for locations where EO could boost the impacts of DCs on competitiveness by stimulating creativity and innovation.

Managers need to understand why DCs matter, as well as what organizational and strategic routines and mechanisms are needed to build them. Top managers must realize that creativity and innovation create a complex process that involves many individuals and spans various boundaries. Whereas ordinary capabilities are based largely on routines, certain enterprise-level DCs are also based on the skills and knowledge of executives (Teece, 2012; Teece et al., 2016). Therefore, the need to build micro-foundations rooted in individual action and interaction is highlighted. The model provides a way to disaggregate this complexity into practically manageable components.

The implications for managers are that DCs (exploratory and exploitative capabilities) should be considered in parallel when developing new products. As the two capabilities affect different aspects of new product advantages along different paths, the use of one type of capability and the exclusion of the other can diminish the effectiveness of the product development process and ultimately lead to a weak new product performance, like the results reported by Kim and Atuahene-Gima (2010). For example, in an SME, excessive exploration at the expense of exploitation can be costly, as the tangible outcomes of exploration will only be realized in the distant future, and then only with a considerable uncertainty. Moreover, a concentration on exploitation without exploration might discourage the organization from pursuing learning and development (Auh and Menguc, 2005). SMEs must be aware of the limitation of their existing creativity and IC. SMEs should develop strategic flexibility in their resource allocation and coordination because this stimulates greater exploration of new technology and markets, which may help firms escape the competence trap (Zhou et al., 2010). Although many advantages of using exploitative/explorative strategies have been identified, their effect on market performance.

11. Limitations and Directions for Future Research

This study has some methodological limitations that affect its potential contributions. As a cross-sectional study that captures one image in time, its ability to identify strict causality between variables is limited. Because capabilities and creativity-innovation co-evolve in a dynamic process, the ideal study might be longitudinal. Furthermore, the results are based on data collected from a key respondent, rather than broader actual data.

As recommendations for future work, the model could be tested by introducing variables like entrepreneurial and market orientation, as mediators or moderators. Innovation and new product success are relevant outcomes which could be tested.

12. Conclusions

The main goals of this research were to evaluate the impacts of DCs (exploitation and exploration) on competitive advantage and performance, mediated by creativity and IC. The moderating role of EO was tested to provide a specific context where these relationships could take place. The results are drawn from a cross-sectional survey of 387 Portuguese companies.

The results show that DCs have an indirect effect on performance and competitiveness, via creativity and IC. These latter capabilities act like an instrument of DC (Lam, 2004; Cassiman and Veugelers, 2006) to help companies be more competitive and perform better. ICs exert a significant influence both on competitiveness and on performance, while creativity may reinforce the effects of DCs on IC (Gaspersz, 2005; Wood, 2003; Woodman et al., 1993; Klijn and Tomic, 2010).

These results show how exploration surpasses exploitation in its impacts on creativity and innovation, even if both have a positive influence on them. Results show, as well, how the presence of EO may boost the relationships between DCs and creativity and innovation. Finally, the present study suggests that DCs, creativity and IC collectively contribute to the creation of a significant positional advantage (cf. Day, 1994) through their interaction.

It seems that EO creates the context where exploitation and exploration give birth to new capabilities and skills, thus moderating the proposed relationships. Exploration produces better results in less entrepreneurial environments while exploitation produces better results in the presence of greater EO. Therefore, exploration appears to ignite companies' capabilities. Simultaneously, ICs have superior impacts on competitiveness and performance in the presence of greater EO. Competitiveness is more important for performance when EO is lower.

This work provides new insights on how SMEs in a transaction economy take advantage of their DCs to improve their competitiveness and performance through creativity and innovation.

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INVESTIGATION 4

The influence of strategic alliances on innovation and new product development, through the effects of exploration and exploitation

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Abstract

Purpose – This study delves into the controversy about the nature and the sign of the effect of strategic alliances and exploration and exploitation capabilities on innovation and new product development. The paper analyses the effects of knowledge sharing and strategic alliance relationships at the firm level. Specifically, we study the influence of strategic alliance relationships in new product development and the mediating role of exploration and exploitation as dynamic capabilities.

Design/methodology/approach – This research proposes a theoretical model tested using structural equation modelling (SEM). Multi-group analysis was performed to assess the moderating role of knowledge sharing. Data was collected based on a structured

questionnaire and 387 valid questionnaires were collected from a sample of SMEs in Portugal.

Findings – The results highlight a positive direct influence of strategic alliances on innovation and new product development, and mediating impact on exploration and exploitation of the moderating role of knowledge sharing.

Research limitations/implications – This study presents some limitations affecting its potential contributions. being a cross-sectional study that depicts one image in time, to capture the dynamics of an incremental process via developmental stages becomes quite difficult. Furthermore, the results are based on data collected from a single key respondent. The results are restricted to one country, Portugal. Future research should initially target different countries. Such research could then test the potential of mainstreaming the results.

Practical implications – To fill this managerial relevance gap, we propose a process model in which the main antecedents of alliance stability will be examined. We argue that an alliance's evolutionary dynamics depend on these factors and variables that the partners must assess and manage over its developmental stages. In this sense, managers have significant scope to influence the ultimate success of strategic alliances. This study highlights the need to actively manage the cooperation– competition (coopetition) tension with the alliance partner and to apply knowledge acquired from the partner to create new knowledge to enhance innovative performance.

Originality/value – This paper contributes to fill the gap between strategic alliances and new product development mediated by exploration and exploitation in the dynamic capabilities view.

Keywords: Strategic Alliances; Exploration and Exploitation Capabilities; Innovation; New Product Development; Knowledge Sharing.

1. Introduction

In recent decades studies have showed the benefits of strategic alliances as a strategic tool supporting improved organizational performance across a range of functions (Dyer & Singh, 1998; Hoang & Rothaermel, 2005; Chuang et al, 2018; O'Dwyer & Gilmore, 2018; Thorne et al., 2019). Strategic alliances might be seen as cooperation arrangements

between two or more companies, that share reciprocal resources to achieve improved competitive performance by sharing resources, while maintaining their own corporate identities (Ireland, Hitt, & Vaidyanth, 2002; Robson et al. 2019). Strategic alliances provide firms with knowledge, technology, human resources, market sharing, among others (Ho et al., 2019), that might help companies to improve their innovation capacity and bring new products to market (Bouncken et al., 2019), which in turn may enhance performance and competitiveness (Huda et al., 2019). Firms engage in strategic alliance to learn and acquire marketing, managerial, innovation and production skills (Lo, Stepicheva, and Peng, 2016), which facilitate creativity and enhance innovation (Silvestri and Veltri, 2017, Schweitzer, 2014). Therefore, a company's ability to interact and learn, accumulate and share knowledge and to quickly adapt is now a basic requirement to innovate, survive and prosper in today's competitive business environment (Chung, Luo, and Wagner, 2006).

In this sense, the ability to manage, integrate and learn from strategic alliances has long been a central topic in business marketing (Möller, 2013; Palmatier, Miao, & Fang, 2007) strategic management research (Anand & Khanna, 2000; Kale, Dyer, & Singh, 2002; Schilke & Lumineau, 2018), entrepreneurship (Felzensztein, Stringer, Benson-Rea, & Freeman, 2014), and operations research (Gunasekaran, Lai, & Edwincheng, 2008; Leischnig et al., 2014; Al-Tabbaa et al., 2019). In a networked economy, it is increasingly important to have the ability to engage in collaborative value creation through joint innovation, marketing alliances, customer care, or supply/value chain coordination (Lambe, Spekman, & Hunt, 2002; Möller, 2013; Niesten & Jolink, 2015). The ability to manage, integrate and learn from alliances has significant effects on attracting and co-creating value, innovation, supplier and customer performance (Matthiessen'sthysens, Martens, & Streukens, 2011). Thus, both researchers and companies became interested in processes, structures, tools and activities that are relevant to managing, integrating and learning in the framework of an alliance (Draulans, DeMan, & Volberda, 2003; Kale & Singh, 2009), and in their antecedents and outcomes. In this sense, the ability to effectively shape and modify strategic alliances is an example of a dynamic capability (Kale et al., 2002; Russo & Cesarani, 2017; Mamédio et al., 2019). Recent work on dynamic capabilities suggests that alliance management can be regarded as a distinct dynamic capability (Eisenhardt & Martin, 2000; Zollo & Winter, 2002), alluding to a set of organizational routines that are the building blocks of dynamic

capabilities (e.g., Helfat et al., 2007; Teece, 2007; Zahra, Sapienza, & Davidsson, 2006; Schilke & Goerzen, 2010). Conceptualizing strategic alliances, we build on this research that addresses the routines underlying dynamic capabilities, and we apply these ideas to the context of alliance management.

Some studies have also focused on topical areas such as strategic alliances and organizational strategy (Datta, Musteen, & Herrmann, 2009; Nielsen & Gudergan, 2012; Yu, Subramaniam, & Cannella, 2013; Gomes et al., 2016), the relationship between internal and external cooperation (Hillebrand & Biemans, 2003; Mudambi & Tallman, 2010; Stettner & Lavie, 2013; Schilke, & Lumineau, 2018), small business alliances and networks (Gulati, Nohria, & Zaheer, 2000; Lee, Abosag, & Kwak, 2012; Min & Mitsuhashi, 2012), knowledge and learning (Inkpen, 2000; Kale & Singh, 2007; Park & Lee, 2012). The strategic alliances, particularly those adopted by new ventures for new product development (Bouncken, Pesch, & Gudergan, 2015; Rothaermel, 2001; Rothaermel & Deeds, 2004), seem to serve as a promising vehicle through which new ventures pursue and balance exploration and exploitation (Kauppila, 2010; Lavie, Stettner, & Tushman, 2010; Dai et al., 2017).

Although prior studies show that almost half of strategic alliances fail, some firms have indeed enjoyed great success with their alliances and the way they manage them (Kale & Singh, 2007; Zhang, Shu, Jiang, & Malter, 2010; Jiang et al., 2015).

Firms form alliances to increase access to resources and improve innovation and competitive performance (Das & Teng, 2000; Lyles & Gudergan, 2006; Pitsis & Gudergan, 2010; Hagedoorn et al, 2018; Elia et al., 2019; Cabello-Medina et al., 2019). Although alliances can advance product innovation performance (de Faria, Lima, & Santos, 2010), alliances often fail to meet their targets (Park & Ungson, 2001), due to high uncertainty, complexity, misunderstandings, opportunism risks, and potential goal inconsistency between allied firms (Bouncken et al., 2015; Galloway et al., 2017). Following Koza and Lewin (1998), scholars have typically separated management of strategic alliances and explorations which deal with knowledge-generating research-related activities, from strategic alliances and exploitation, which are devoted to knowledge-leveraging activities such as production, commercialization and marketing activities (Lambe et al., 2009; Lavie and Rosenkopf 2006; Nielsen, & Gudergan, 2012; Kauppila, 2015; Stouthuysen et al., 2017; Ferraris et al., 2019; Li & Wang, 2019). The balance between the two types of activities is then achieved on the level of the firm's

portfolio of alliances (Lavie and Rosenkopf 2006; Lin et al. 2007; Colombo et al., 2014; Yang, et al., 2014, Li et al., 2018). Exploitation relates to making incremental improvements to existing products using technologies or competencies available, whereas exploration concerns the development of new products that depart from existing knowledge or technological trajectories (Levinthal and March 1993). Scholars have examined the exploration and/or exploitation strategies of small firms with their dominant partners in the context of alliances (Rothaermel and Deeds, 2004; Velu, 2015; Yang et al., 2014; Hao and Feng, 2018; Ferraris et al., 2019). The choice of the right portfolio of strategic alliances might provide SMEs with the resources that can leverage the innovation capabilities and the development of new products (Yan & Azadeganb, 2017; Pesch et al., 2016; Silva & Moreira, 2018) even if the linkages are yet to be explored. In fact, literature fails to explain how to align these strategic alliances in a turbulent context to produce more innovation and to improve new product development with dynamic capabilities for enhancing overall competitiveness (Mamédio et al., 2018). Additionally, in a meta-analysis, Cirjevskis (2019) shows the need to explore the causal mechanisms that might explain the impacts of strategic alliances on dynamic capabilities.

To fill this gap, this paper looks into the relationship between strategic alliances and innovation capacity and new product development, mediated by exploration and exploitation in the dynamic capabilities view. The moderating role of knowledge sharing, considering low and high levels of knowledge sharing, was introduced to furnish a specific environment, based on the firm's capacity to combine exploration and exploitation, which could boost or inhibit the proposed relationships. Combining the insights from the knowledge acquisition literature with the literature on knowledge application (Fiol, 1996; Lane, Koka, and Pathak, 2006; Meier, 2011, Frankort, 2016; Yana & Azadeganb, 2017), this study fills a gap in the alliance literature by directly examining the role of strategic alliances in connecting technology and product domains of companies. Specifically, one contribution lies in offering a systematic assessment of whether knowledge acquisition through strategic alliances influences new product development in companies. The second contribution lies in showing that knowledge acquisition associated with new product development is subject to important scope conditions—specifically, those rooted in the levels of technological relatedness and product-market competition of partners.

Previous studies in this area have mainly focused on companies operating in most developed markets, and little is known about what strategic alliances are, or their relationship with new product development in transition economies. Thus, the study uses Portugal as a testing ground for three reasons: Portugal's size in the global economy - since it is in a process of internationalization -, and its place in a European context. On the other hand, Portugal was ranked as the 14th most innovative country in the European Union, presenting the best position ever, having climbed four places on the European innovation ranking in 2017.

2.Theory and hypotheses

Building on the literature, strategic alliances have been defined as the corporate ability to manage strategic business relationships using proper processes, such as coalition target setting, task implementation and evaluation to achieve shared benefits (Kohtamäki et al. 2018:191). Strategic alliance is the combination of specific and strategic resources, capabilities and competencies between firms to meet such specific objectives as to enter new markets, to develop more extensive line of products, to gain knowledge of new competencies, to gather revenue for financing R&D, manufacture expenses and/or marketing expenses (Simonin, 1999; Lin & Darnall, 2015; Subramanian et al., 2018; Robson et al., 2019). Strategic alliances are also defined as collaborative arrangements between companies that create value for stakeholders by creating competitive advantages and providing synergies through the sharing of resources, capabilities, skills, knowledge, and risks (Schilke, 2014, Pooe & Munyanyi, 2019) or as a company's capability to effectively exploit interorganizational relations issuing from strategic alliances (Rothaermel and Deeds, 2006 Mamavi., Meier, & Zerbib, 2015). The capacity to manage alliances is built over time through repeated strategic alliances. It becomes a source of competitive advantages for the company (Ireland et al., 2002). A strategic alliance is very important, because it enables companies to (1) gain rapid access to new technology, information and skills out of organizational boundaries, (2) gain economies of scale by pooling assets and resources, (3) share risks for expensive projects which companies could not afford on their own, (4) manage firm's interdependencies, and (5) share strategic knowledge with partners (Mitsubishi, 2002; Shakeri and Radfar, 2017). Being short of crucial resources may encourage firms to strategically engage in these external partnerships, which explains why strategic alliances are often presented as an alternative solution to internal or external growth (Hutt, 2000; Gundolf et al., 2017).

2.1 Strategic Alliances

The rate of alliance formation in recent years has increased significantly (Leischnig et al., 2014). The culture of interdependence in business has grown, impacting the ability of organizations to create and capture value (Hannah, 2016); how SMEs navigate these interdependencies defines the way they form alliances. Alliances are an essential business management tool designed to improve organisational competitiveness in uncertain, dynamic, multifaceted environments (Hoffmann & Schlosser, 2001). By forming alliances with partner companies, SMEs strengthen their competitive advantage (Townsend, 2003), enabling them to compete with larger organizations with the increased resources, skills and abilities and geographical spread facilitated by the alliance (Franco & Haase, 2015; O'Dwyer et al., 2011; O'Dwyer & Gilmore, 2018).

Contractual asset sharing facilitated by alliances challenges the concept of impermeable organizational boundaries (Das & Teng, 2000; Stuart, 1998) and is a purposive mutually beneficial relationship between companies (Albers, Wohlgezogen, & Zajac, 2016), which benefits organizational performance (Lambe, Spekman, & Hunt, 2002). It impacts a company's ability to effectively initiate and manage strategic alliances and their associated relationships. Such relationships result in corporate growth (Powell, Koput, & Smith-Doerr, 1996), organizational learning (Hamel, 1991; Hulbert, Gilmore, & Carson, 2012), competitive advantage (Gravier, Randall, & Strutton, 2008; ; Eisenhardt & Schoonhoven, 1996; and transaction cost economies (Eisenhardt & Schoonhoven, 1996) for allied companies. Many of these relationships result in successive development of international operations in multiple markets (Chetty & Eriksson, 2002; Cyert & March, 1963; Welch & Luostarinen, 1988), which is part of an organizational strategy.

SMEs in mature industries and companies with traditional business activities are more likely to have internationalized over a period of time (Andersson, 2002; Boter & Holmquist, 1996) and in incremental stages (Madsen & Servais, 1997) by leveraging all available resources. Literature illustrates two dominant views of strategic alliances: the economic and process views. The economic approach suggests that a rational solution emanates from access to perfect information (Benito & Gripsrud, 1992) through larger information networks facilitated by strategic alliances. The process approach suggests that the rational solution is replaced by the behavioral decision (Benito & Gripsrud, 1992) in the absence of perfect information. Decision-making in SME alliances is largely dependent on, first, the nature of the constituent membership of the alliance, which can

be based on interpersonal relationships rather than purposive rational selection of partners; and second, the entrepreneur's personal decision-making process. In both instances, reliance on perfect information for decision-making is limited; therefore, the process approach is more prevalent among SMEs. Such processes encompass management capability, target setting, task implementation, integration capability, structural integration, knowledge creation and internalization (Kogut, 1988; Zollo et al., 2002; Whelan, 2016; Carmeli et al., 2017 Kohtamaki, Rabetino, & Moller, 2018).

Academic research on how firms can have greater alliance success is recent and scarce. Some of the works in this area, as seen ahead, suggest that companies with greater alliance experience enjoyed more success in such alliances. Scholars also suggest that the alliance learning process is directed towards having alliance capability and greater alliance success by helping firms learn, accumulate, and leverage alliance management know-how.

Previous literature has established that strategic alliances drive innovation and are a popular mode of external knowledge acquisition (Vanhaverbeke, Duysters, and Noorderhaven 2002). Given limited resources, explorative and exploitative alliances may conflict with each other, but can also act synergistically (Gupta, Smith, and Shalley 2006; He and Wong 2004; Lavie and Rosenkopf 2006; Sidhu, Commandeur, and Volberda, 2007; Ferraris et al., 2018). Ancona et al. (2001, 568) argue that companies may engage simultaneously in exploitation and exploration. In fact, according to Katila and Ahuja (2002), the exploitation of existing capabilities is often needed to explore new capabilities and the exploration of new capabilities also improves a company's existing knowledge base. These reports suggest that cross-effects of exploration and exploitation are likely to exist in influencing innovation, and, although the strengths may be distinct, they are not mutually exclusive. Companies in explorative or exploitative alliances learn from each other and innovations are the outcome of the learning process. The notion that explorative alliances positively influence product innovation has been well established (Isobe, Makino, and Montgomery 2008). Interestingly, He and Wong (2004) show that exploitative alliances can also lead to product innovation. According to knowledge-accessing theory, knowledge-acquiring alliances (explorative alliances) often need a longer time to launch new products into the market and require higher costs and risks compared with knowledge-accessing alliances (exploitative alliances) (Grant and Baden-Fuller 2004; Leung et al., 2015; Bresciani et al., 2018; Tewari, et al., 2019).

Strategic alliances, particularly those adopted by new ventures for new product development (Bouncken, Pesch, & Gudergan, 2015; Rothaermel & Deeds, 2004), seem to serve as a promising vehicle through which new ventures pursue and balance exploration and exploitation (Kauppila, 2010; Lavie, Stettner, & Tushman, 2010). However, firms encounter path dependence in exploration or exploitation so that prior experience in exploration (exploitation) can reinforce the tendency to explore (exploit) (Lavie & Rosenkopf, 2006; Dai et al., 2017).

Resource endowments in strategic alliances are more complex than in a single company, because strategic alliances provide opportunities for accumulating resources provided by both alliance partners to improve the alliance's overall marketing and technical skills, which contribute to new product development success (McGee et al., 1995; Park et al., 2002). Further, dynamic capabilities include the ability to achieve new forms of competitive advantage, especially when time-to-market is a critical factor of innovation in rapidly changing environments (Teece et al., 1997; Ma et al., 2012). The use of management strategic alliances for new product development has become prevalent in SME's. A critical reason for engaging in strategic alliances for new product development projects is to access and combine the resources of the partner-companies to respond to the increasing pressure to develop innovative new products quickly (Gupta & Wilemon, 1996; Talay et al., 2009). Parallel to the rise of strategic alliances for new product development activities, an increased amount of research has begun to examine strategic alliances, with an interest in resource creation and the repercussions on the performance of new product development activities in the context of strategic alliances (Wittmann et al., 2009; Chen et al., 2016).

2.2 Dynamic Exploration and Exploitation Capabilities

Resource-based view and the dynamic capabilities approach are models that try to explain exploitation and exploration (Yalcinkaya, Calantone & Griffith, 2007; Han & Celly, 2008; Lin et al., 2013; Zhan & Chen, 2013). In this study, RBV presents the drivers of exploitation, while the dynamic capabilities theory can be seen as a more appropriate approach to establish the determinants of exploration. At the same time, the antecedents of exploitation might be seen as first-order resources while the antecedents of exploration as second-order capabilities (Vahlne & Ivarsson, 2014; Cepeda and Vera, 2005; Easterby-Smith & Prieto, 2008; Collis, 1994; Rosenkopf & Nerkar, 2001; Danneels, 2002; Sidhu, Volberda & Commandeur, 2004; Prange & Verdier, 2011 Gibson & Birkinshaw, 2004;

He & Wong, 2004; Auh & Menguc, 2005; Dutta, 2012; Marín-Idárraga et al, 2015). Crossan, Lane, and White (1999) and Fischer et al. (2010) have conceptualized exploration and exploitation capabilities as dynamic capabilities, since they have the capacity to formulate a response to a need or an opportunity for change. In addition to being considered dynamic capabilities that allow companies to adapt to their environment over time, exploration and exploitation capabilities have been studied under the effect of some dimensions of the corporate environment (Jansen, Van Den Bosch & Volberda 2006; Yang & Li 2011; Bernal et al., 2019).

The exploration-exploitation framework (March, 1991) distinguishes two broad patterns of behavior and provides a framework for understanding the different needs of ventures at various stages in the product development process. Levinthal and March (1993) characterize exploration as opportunity seeking and “the pursuit of knowledge, of things that might come to be known” (p. 105). In contrast, exploitation is “the use and development of things already known” (p. 105) and focuses on short-term economic returns from existing products or knowledge. While exploitation and exploration are antecedents to innovation and new product development (Hoang & Rothaermel, 2010; Lavie, 2007; Rothaermel & Deeds, 2004; Liu et al., 2019), they may encompass a certain level of uncertainty and risk. Exploration is often characterized by high risk of failure, while exploitation involves uncertainty, such as government approval for new products, weak sales, or difficult marketing campaigns. Industry incumbents often prefer a cooperation strategy over internalization, as this maximizes real options and takes advantage of external knowledge resources (Folta, 1998; Van de Vrande & Vanhaverbeke, 2013; Wadhwa & Kotha, 2006). For young companies, any increase of risk may be particularly prohibitive. Following equity capitalization, investors tend to focus less on innovation, particularly new and unfamiliar knowledge pursuits (Bernstein, 2012; Wu, 2012), as managers' stakes in innovations lessen and incentives to cash out increase. Additionally, career concerns and threats of takeover may pressure managers to pursue safer investment options. While these firms may be less apt to take on risk, they face other risks by not being innovative. As a result, companies may be more likely to leverage their risk by pursuing collaborative exploration strategies.

Exploitation

The exploitation of competences includes things like efficiency and development process, and it promotes “the refinement and extension of existing competences,

technologies and paradigms exhibiting returns that are positive, proximate and predictable” (March 1991). Exploitation involves investing resources to refine and extend existing product innovation knowledge, skills and processes. It is through research and development processes that existing competences are shared across corporate boundaries to generate synergy (Garcia & Calantone, 2003), with the object of obtaining greater efficiency and reliability of existing innovative activities (Soosay & Hyland, 2008; Medlin & Törnroos, 2015). However, although standardizing processes may increase efficiency, it also carries an aversion to risk, which provides a motivation to stick to development activities that have proven successful in the past (Miller, Zhao, & Calantone, 2006). To sum up, the exploitation of competences focuses on using and developing existing capabilities, promoting improvements in existing components and building on existing technological elements (Benner & Tushman, 2003; Bauer et al., 2018). Similarly, exploitative innovation is aimed at improving existing product-market domains. It is associated with mechanistic structures, tightly coupled systems, path dependence, routines, control and bureaucracy, and stable markets and technologies (Li, and Wang, 2019). According to Gupta et al. (2006), the term “exploitation” should be reserved for activities in which the central aim is to use existing knowledge rather than moving down any kind of learning trajectory.

Exploration

The exploration of competences, which involves investing resources with the aim of acquiring entirely new knowledge, skills and processes (Atuahene-Gima, 2005), is defined as the “experimentation with new alternatives having returns that are uncertain, distant and often negative” (March 1991, p.8), and it involves risk-taking and experimenting. As such, it is associated with radical innovation (Jansen, Van Den Bosch, & Volberda, 2006), because of its focus on emerging new customers and market needs (Cho & Pucik, 2005), which suggests that innovations are more explorative in nature when a company has less insight into the probability of developing and marketing a specific innovation successfully (Greve, 2007). Exploration is associated with ground breaking improvisation, autonomy and chaos, and emerging markets and technologies. It is motivated by a desire to discover something new (Yalcinkaya et al., 2007), and as such an explorative capability focuses on the “research” aspect of the R&D process (Garcia & Calantone, 2003). Also, exploratory innovation is technological innovation aimed at entering new product-market domains. According to March (1991), the essence

of exploration is experimentation with new alternatives. Accordingly, the exploration of competences involves looking for knowledge to venture onto a different technological trajectory (Atuahene-Gima, 2005; Molina-Castillo et al., 2011; Bednarek et al., 2016; Kauppila, 2015; Ozdemir et al., 2017).

2.3 Strategic Alliances, Dynamic Capabilities and Exploration/ Exploitation Capabilities

Strategic alliances refer to “the capacity to purposefully create, extend, or modify the firm’s resource base, augmented to include the resources of its alliance partners” (Helfat et al., 2007; Singh & Rao, 2016). Dynamic capabilities arguably have captured attention, because they may offer a route to competitive advantage under conditions of change, a vexing goal that is the virtual Holy Grail of strategic management (Helfat & Peteraf, 2009). The domain of interest spans multiple levels of analysis within and outside the organization, encompasses strategy content and process, and involves numerous applications such as innovation, acquisitions, alliances, market entry, diversification, and more (Helfat et al., 2007; Schilke et al., 2018). Based on prior literature, this research conceptualizes the capability of the company to manage alliances, learn, integrate and reconfigure resource base to address the changing business conditions as a dynamic capability (Rothaermel & Hess, 2007; Chen et al., 2009; Lin & Wu, 2014; Russo & Cesarani, 2017; Simon et al., 2015; Aggarwal & Kapoor, 2018; Mamédio et al., 2019).

In previous literature, alliance capabilities have been used to reflect both strategic/operational and dynamic capabilities. The former term builds on the resource-based view (RBV) (Barney, 1991; Wernerfelt, 1984), whereby competitive advantage is created by strategic capabilities (such as alliance capability), which have been generated in combination with processes and competencies (Kraaijenbrink, Spender, & Groen, 2010; Long & VickersKoch, 1995). At the micro-level, processes consist of structures (e.g. alliance function), routines (e.g. alliance evaluation), tools (e.g. the alliance evaluation template) and activities (e.g. using an alliance evaluation template to evaluate a specific alliance) (Danneels, 2010; Eggers & Kaplan, 2013). These processes have sometimes been deemed micro-processes (Argote & Ren, 2012) and, at other times, practices (Vesalainen & Hakala, 2014; Wang & Rajagopalan, 2015). Processes and activities enable the use of resources and competences, often bridging resources between functions or departments (Kraaijenbrink et al., 2010; Long & Vickers-Koch, 1995). Aligned with the RBV (Barney, 1991; Grant, 1991), alliance capabilities consist of

processes and competencies, which bundle together with other capabilities and related processes and competencies, to achieve VRIN/O (valuable, rare, inimitable, non-substitutable, and organized) resources, thus identifying competitive advantage (Kraaijenbrink et al., 2010; Kohtamäki et al., 2018).

Alliances might represent a possible alternative to obtain the required resources that are outside the boundaries of the firm (Das & Teng, 2000). In fact, alliance management is a critical strategic domain that allows the organization to alter its resource base. Therefore, consistent with the work of previous authors (e.g. Eisenhardt & Martin, 2000; Rothaermel & Deeds, 2006; Zollo & Winter, 2002), we argue that alliance management capability is a distinct dynamic capability. Analogous to Eisenhardt and Martin's (2000) definition of dynamic capabilities and consistent with Helfat et al.'s (2007) discussion of relational capabilities, strategic alliances can be considered a "type of dynamic capability with the capacity to purposefully create, extend, or modify the firm's resource base, augmented to include the resources of its alliance partners" (p. 66). Strategic alliances are a kind of dynamic capabilities, defined as superior capabilities of a company for managing alliances (Heimeriks & Schreiner, 2010; Wang & Rajagopalan, 2015; Deng et al., 2018). They are heterogeneously distributed across firms and, for this reason, they are useful to justify differences in performance across companies. Lambe (2002) states that alliances are successful if firms develop the capabilities needed for managing them.

As stated above, the dynamic capabilities of companies are the forces behind strategic ambidexterity, since they convert resources into exploitation and exploration capabilities (Eisenhardt & Martin, 2000; Vahlne & Jonsson, 2017). Dynamic capabilities do not only facilitate generation of exploitation and exploration capabilities, they also generate a significant strategic dilemma. While exploitation capabilities provide short-term success in developing new products, they can also restrain exploration activities in a firm paradox termed "capability-rigidity" (Leonard-Barton, 1992; Ritala, Heiman, & Hurmelinna-Laukkanen, 2016) or "core-rigidity" (Bener & Tushman, 2003). Some authors argue that this dilemma is substantially subject to the understanding of current and future customers (Atuahene-Gima, 2005; Noble, Sinha, & Kumar, 2002). The desires of customers can be translated into insightful information for developing new products or services (Bustinza et al., 2013; Martin et al., 2017; Sheng, Amankwah-Amoah, & Wang, 2017; Bustinza et al., 2019).

Developing the idea that dynamic capabilities play a balancing role in responding to variation in the environment, O'Reilly and Tushman (2008) argue that organizational ambidexterity, or the ability of a firm to simultaneously explore and exploit, is a form of dynamic capability. Ambidexterity depends on the dynamic capabilities to exploit a firm's current routines, whilst exploring new opportunities that will define the future. This process is purposefully undertaken by senior managers to deal with the trade-offs involved in the 'temporal sequencing' and 'simultaneous balancing' of exploration and exploitation (O'Reilly and Tushman, 2008; Davies & Brady, 2016; Heracleous et al., 2017). Therefore, is the improvement of existing resources into new functional capabilities that better match the environmental context (Eisenhardt and Martin 2000; Zhang & Wu, 2017; Galloway et al., 2018).

Therefore, exploitation learning focuses on refining existing business activities to obtain approval from regulatory, industry and community constituents, thereby enhancing their survival aspects. Unlike competency-oriented alliances, which develop structures that promote the development of new technologies, legitimacy-oriented alliances develop learning structures that promote what Barringer and Harrison (2000) described as the replication or expansion of existing practices. This sort of learning encourages strategic alliance partners to imitate legitimate practices, refine or standardize their current routines, and reduce risks and costs (Barringer and Harrison 2000; Lin et al. 2007; Li and Wang, 2019). In this sense, many scholars categorize alliance learning as exploration learning for the development of new opportunities and as exploitation learning for the deployment of an existing capability (e.g., Koza and Lewin 1998, p. 256; Rothaermel and Deeds 2004; Martynov, 2017; Penney et al., 2018). Strategic alliances, particularly those adopted by new ventures for new product development (Bouncken, Pesch, & Gudergan, 2015; Rothaermel & Deeds, 2004), seem to serve as a promising vehicle through which new ventures pursue and find the balance between exploration and exploitation (Kauppila, 2010; Lavie, Stettner, & Tushman, 2010; Sippel, 2017; Talebi et al., 2017). More fundamentally, strategic alliances offer new ventures a set of learning opportunities to differentiate and integrate their knowledge base. On the one hand, alliances provide a new venture with access to additional resources and knowledge that allow it to pursue business opportunities that you would otherwise not be able to pursue. It represents increased learning experiences that can enrich the company's knowledge (Chen, Lee, & Lay, 2009; Holmqvist, 2004; Jiang, Bao, Xie, & Gao, 2016). On the other hand, if a

company learns to exploit the outcomes of exploratory activities entrusted to the alliances, or to choose exploratory alliances by taking into consideration the company's existing exploitative capabilities, this can help a company better integrate its knowledge (Cao et al., 2009). Therefore, the following hypotheses are suggested:

H1 There is a positive relationship between Strategic Alliances and exploitation

H2 There is a positive relationship between Strategic Alliances and exploration

2.4 Strategic Alliances, Innovation and New Product Development

Strategic alliances can lead to inter-firm learning, which is well documented in the strategic management literature (Hamel, 1991; Inkpen, 2002; Powell et al., 1996). Several studies show that alliances can be used to acquire different types of knowledge and thus can influence the direction the company might take in innovation (Colombo et al., 2006; Hohberger, 2015; Stuart and Podolny, 1996; Zach & Hill, 2017; Hohberger et al., 2015; Wu, 2014; Lewandowska et al, 2016; Hagedoorn et al., 2018).

According to Rothaermel and Hess (2010), many companies are recognizing that they must open their innovative process to combine internal with external knowledge. This goal could be achieved by engaging in strategic alliances or acquiring technology ventures, because there is a positive link between Strategic alliances and innovation (Ahuja and Katlia, 2001; Baum, Calabrese and Silverman, 2000; Vendrell-Herrero et al., 2018; Stefan & Bengtsson, 2017). As the challenges to cope with newer technology are ever increasing, firms are using collaboration to optimize the use of one another's knowledge and expertise (Hill and Rothaermel, 2003; Keil, Maula, Schildt and Zahra, 2008; Bouncken, et al., 2016; Islam et al., 2018; Belderbos et al., 2018; Elia et al., 2019). Phelps (2010) documented that there was a positive correlation between the technological influence of diversity and exploratory innovation of alliance partners.

Consequently, the following hypothesis is proposed:

H3 There is a positive relationship between strategic alliances and innovation

The use of strategic alliances for new product development has become prevalent in SME's. A critical reason for engaging in strategic alliances for new product development is to access and combine the resources of both partner firms to respond to the increasing pressure to develop innovative new products quickly (Gupta & Wilemon, 1996; Talay et al., 2009). Parallel to the rise of management strategic alliances for new product

development activities, an increased amount of research has begun to examine strategic alliances, with an interest in the resource creation and performance implications of new product development activities in the SME's strategic alliance context (Wittmann et al., 2009; Lee and Lam, 2018).

More specifically, strategic alliances are a type of dynamic capability that provides the firm with external resources that otherwise would have been missing (Eisenhardt & Martin, 2000). Due to the critical role of resources in forming strategic alliances, the lack of research on how strategic alliance resources lead to new product development success is a significant gap in the research on alliances (Ma et al., 2012). Resource endowments in strategic alliances are more complex than in an individual company, because strategic alliances provide opportunities for accumulating resources provided by both alliance partners to improve the alliance's overall marketing and technical skills, which contribute to new product development success (McGee et al., 1995; Ma et al., 2012; Marion et al., 2015; Fang et al., 2015; Bouncken et al., 2018; Bustinza et al., 2019; Badir & O'Connor, 2015). Consequently, the following hypothesis is proposed:

H4 There is a positive relationship between strategic alliances and new product development

2.5 Dynamic Exploration and Exploitation Capabilities, Innovation and New Product Development

Innovation has been commonly defined as the successful application of new ideas resulting from organizational processes in which different resources are combined (Dodgson, Gann & Phillips, 2014; Rauter et al., 2018). Innovation capability is considered to be most the valuable asset for companies to provide and sustain competitive advantage and implement the whole strategy. It is composed of the main process within the company (Lawson & Samson, 2001) and cannot be separate from the other practices. It is tacit and non-modifiable and closely correlated with the experimental acquirement and interior experiences (Guan & Ma, 2003; Spender et al., 2017). "Innovation is a central mechanism for strategic change and growth whereby organizations exploit, explore, and reposition themselves in changing internal and external conditions" (Dittrich & Duysters, 2007, p.109). Apparently, both exploitative and exploratory learning nurture and lead the innovation efforts (March 1991). "Exploitation increases the efficiency of existing technologies, while exploration is required to produce new technologies of high quality

and impact” (Henderson, 1993, p. 221). Therefore, a dichotomy might be found between exploitation and exploration in the organizational learning field, in terms of consequences and impacts on innovation activities (Sorensen & Stuart, 2000; Hao & Feng, 2018). Consequently, companies have to combine exploitative learning with exploratory learning if they are looking for an increase on the effects on innovation.

Li, Vanhaverbeke and Schoenmakers (2008) suggest exploration might be more important to develop differentiated and innovative outcomes. In turn, exploitation is more likely to improve cost efficiency and profit, production efficiency and quality (Kim & Atuahene-Gima, 2010; Molina-Castillo et al., 2011; O’Cass et al., 2014; Tabeau et al., 2017). Exploratory innovation, which places great importance on acquiring new knowledge, can increase the innovation potential of companies (Raisch and Birkinshaw 2008). Exploratory innovation, which is related to radical change, risk taking, creativity, and disruptive innovation (March 1991), denotes technological innovation activities aimed at entering new product market domains (He and Wong 2004). Exploration can inspire firms to pursue new knowledge, open new technologies, create new designs, develop new products for new customers and markets, and innovation (Jansen, Vera, and Crossan 2009; March 1991; Tiwana 2010; Xie and Gao, 2017).

Consequently, the following hypothesis is proposed:

H5 There is a positive relationship between exploration and innovation

The recent research has focused instead on the role of strategic alliances in new product development, showing that such alliances may have consequences in the product domain as well (Chen and Li, 1999; Deeds et al., 1999; Kotabe and Swan, 1995; Rothaermel and Deeds, 2004; Frankort,2016). While exploitation and exploration are antecedents of innovation and new product development (Hoang & Rothaermel, 2010; Lavie, 2007; Rothaermel & Deeds, 2004; Dai et al., 2017), they may encompass a certain level of uncertainty and risk. Exploration is often characterized by a high risk of failure, while exploitation involves uncertainty, such as government approval for new products, weak sales, or difficult marketing campaigns. Industry incumbents often prefer a cooperation strategy over internalization, as this maximizes real options and takes advantage of external knowledge resources (Folta, 1998; Van de Vrande & Vanhaverbeke, 2013; Galloway et al., 2017). Organizational adaptation is substantially related to innovation and efficiency (Abernathy, 1978), and rooted in the company’s dynamic capabilities to both exploit and explore (Barrales-Molina, Bustinza, & Gutierrez-Gutiérrez, 2013; Teece,

Pisano, & Shuen, 1997; Uhl-Bien & Arena, 2018). (Barrales-Molina, Bustinza, & Gutierrez-Gutiérrez, 2013; Teece, Pisano, & Shuen, 1997; Uhl-Bien & Arena, 2018).

Exploratory learning involves searching for information that is largely new and beyond an organization's own experience (Zi-Lin & Poh-Kam, 2004; Land et al., 2012). Exploitation can improve corporate efficiency (Atuahene-Gima and Murray, 2007; Kim and Atuahene-Gima, 2010; March, 1991), however, self-reinforcing exploitation might lead to single-loop learning, and a limited innovation capability (Katila and Ahuja, 2002; March, 1991). High levels of exploitation might lead to short term success while high levels of exploration might create local difficulties when incorporating new knowledge (Katila and Ahuja, 2002; Levinthal and March 1993). Using new product development efficiently (exploitation) creates new offerings and market spaces that enhance capabilities (exploration) (Kindström et al., 2013.). Katila and Ahuja (2002) showed that when exploitation and exploration were used simultaneously, the effects on new product development were positive (He & Wong, 2004). Exploitation efforts can improve capacity for exploration since a company's utilization of existing knowledge can help reconfigure existing knowledge to discover novel findings in new product development (Cao et al., 2009, Lee et al., 2017). Exploratory learning might bring too much new knowledge enabling firms to develop new products (Katila and Ahuja, 2002; Kim and Atuahene-Gima, 2010;). However, the combination of both explorative and exploitative learning might boost demand for scarce new resources (Cao et al., 2009; March 1991, 1996, 2006) and bring new challenges to market.

Strategic alliances, particularly those adopted by new ventures for new product development (Bouncken, Pesch, & Gudergan, 2015; Rothaermel, 2001; Rothaermel & Deeds, 2004), seem to serve as a promising vehicle through which new ventures pursue and balance exploration and exploitation (Kauppila, 2010; Lavie, Stettner, & Tushman, 2010). However, firms encounter path dependence in exploration or exploitation, to the extent that prior experience in exploration (exploitation) can reinforce the tendency to explore (exploit) (Lavie & Rosenkopf, 2006). As a result, while providing opportunities for new ventures to reduce possible imbalance between their exploration and exploitation, alliances for new product development also expose these ventures to the same risk of imbalance by making them rely too much on alliance partners for outsourcing exploration or exploitation (Kauppila, 2010; Dai et al., 2017). Indeed, even though companies tend to balance their exploration and exploitation activities across different domains within

alliances themselves over time (Lavie & Rosenkopf, 2006), it is still unclear whether the strategic alliances of new ventures can contribute to the formation of corporate ambidexterity.

Organizational ambidexterity is achieved based on routinized actions stored in organizational memory (Kang and Snell, 2009), and emphasizes the role of the organizational context in facilitating and balancing exploitation and exploration for enhanced new product development (e.g., Cao et al., 2009; Wang and Rafiq, 2014; Lee et al., 2018).

Exploitation efforts (also called incremental efforts) seek to find refinements and incremental improvements for existing products, based on prior knowledge and technique, or small advances in it. Exploratory efforts (also called radical efforts in the literature) seek development of qualitatively new products, based on substantial advances in existing knowledge or technique (Atuahene-Gima 2005; Kim and Atuahene-Gima 2010; Chou and Kimbrough, 2016; Lee et al., 2017).

Consequently, the following hypotheses are proposed:

H6 There is a positive relationship between exploration and new product development

H7 There is a positive relationship between exploitation and new product development

2.6 Innovation and New Product Development

Innovation capability helps firms to quickly introduce new products and adopt new processes. It is than important to provide inputs for an intense competition. Therefore, it requires a huge variety of resources and capabilities (Sen & Egelhoff, 2000; Apanasovich et al. 2016; Ho et al., 2018; Rauter et al., 2019; Rajapathirana, & Hui, 2018) to drive success in rapidly changing environments. According to Adler and Shenbar (1990, p. 102), innovation capability is defined as “(1) the capacity of developing new products that satisfy market needs; (2) the capacity of applying appropriate process technologies to produce these new products; (3) the capacity of developing and adopting new products and processing technologies to satisfy future needs; (4) and the capacity to respond to the accidental technological activities and unexpected opportunities created by competitors”..

On the other hand, research in new product development (NPD) has been of interest for several decades (e.g. Wind and Mahajan, 1988; Page, 1993; Kleinschmidt et al., 2007). NPD attracts researchers who are interested in engineering (e.g. Perrone et al., 2010),

collaboration aspects (e.g. Emden et al., 2006), and dynamic capabilities (e.g. Gutierrez-Gutierrez et al., 2018) for globalization efforts (e.g. Townsend et al., 2010), and green NPD (Polonsky & Ottman, 1998; Baumann et al., 2002; Dangelico & Pontrandolfo, 2010). New product development indicates a transformation of a market opportunity and a set of assumptions about product technology into a product available for sale with cross-functional integration and quick development cycles (Brown and Eisenhardt, 1995; Krishnan and Ulrich, 2001; Marion et al., 2012; Gmelin & Seuring, 2014; Colombo et al., 2015; Cui & Wu, 2017). In this context Inter-organizational new product development (NPD) has become an increasingly highlighted topic in both practical and theoretical discussions of product innovation (Narasimhan and Narayanan, 2013; Mazzola et al., 2015; Leenders & Dolfsma, 2016). Companies are moving beyond their organizational boundaries to incorporate external knowledge into their internal product innovation processes (Mazzola et al., 2015). By offering a wide variety of heterogeneous external sources, inter-organizational NPD expands a company's options for enhancing its innovation efforts (Carnovale and Yeniyurt, 2015; Woschke, & Haase, 2016; Yan and., Azadegan 2017; Mu et al. 2017). Dadfar, Dahlgaard, Brege and Alamirhoor (2013) have found that superior innovation capability tends to implement and develop a new product variety which is added to the existing product portfolio. Consequently, the following hypothesis is proposed:

H8 There is a positive relationship between innovation and new product development

3. The effect of Knowledge Sharing

Researchers in the tradition of the knowledge based view (KBV) have also claimed that knowledge sharing is easier within a company than between companies (e.g. Grant, 1996; Kogut and Zander, 1996; Macher, 2006), which suggests that an internal sourcing mode (a form of in house production) is a better option for knowledge sharing compared to an external sourcing mode (buying from an external supplier) (see Willcocks et al., 2004; Zimmermann, et al., 2018).

Knowledge sharing is a process through which organizations exchange information and specialized knowledge (Zaheer & Venkatraman, 1995; Tang et al., 2018). Knowledge sharing can occur in different layers. At the cross-organizational layer, according to the strategic management theory of technical transfer of Tang, Mu, and MacLachlan (2008), knowledge sharing can take place within both formal inter-organizational relationships

and through informal interactions and channels. Knowledge sharing can generate positive externalities and make it possible for an organization to acquire knowledge overflow from its cooperative partners (Lorenzoni & Lipparini, 1999; Gao & Bernard, 2018). Sveiby (2001) indicates that inter-organizational knowledge sharing can improve the capabilities of all the parties and promote their abilities to generate new knowledge.

Recent investigation on strategic alliances seeks to explain alliance activities based on a knowledge-based perspective and assumes that the knowledge sharing is central to the development of new processes, products or services among them (Gulati, 1998; Hoang & Rothaermel, 2005; Mowery et al., 1996). Learning cooperation among different companies in an alliance might be critical to competitiveness and success. Knowledge sharing can be therefore, seen through different lenses: (1) companies might learn with an alliance partner when they jointly enter a new business or seek for new capabilities; (2) companies might get new knowledge from a partnership acceding to the skills and capabilities that alliance partners bring to the alliance (Baum, Calabrese & Silverman, 2000; Kogut, 1988). Subsequently, knowledge sharing has increasingly been recognized in many strategic alliance studies as the primary purpose of collaboration, which entails the transfer of know-how, organisational capabilities, technology, etc. (Ciborra, 1991; Inkpen and Crossan, 1995; 1998; Simonin, 1997, 1999, 2004; Khanna et al., 1998; Kale et al., 2000; Tan & Thai, 2014).

According to McAdam (2000), knowledge acquisition and management is critical for increasing the development of new products and services, therefore, boosting innovation. Knowledge sharing is, therefore, one of the main reasons to enter into an alliance and to invest a serious effort on it (Jiang and Wang, 2014). Most of the present investigation shows that knowledge among alliance members brings the generation of most of the resources and skills to increase product innovation (Zhao and Lavin, 2012; Clark, 1989; Spender & Grant, 1996). Even relationships and partnerships with suppliers might bring new ideas and new ways of materializing them, therefore increasing new product development performance (Zhao and Lavin, 2012; Brown and Eisenhardt, 1995). Furthermore, the supplier can introduce ideas on how to improve product quality, improve manufacturability or ideas that contribute to the performance of the NPD process overall (Sivadas and Dwyer, 2000; Zhao and Lavin, 2012; Knudsen, 2007). Thus, knowledge sharing increases the performance of the overall NPD process (Lawson et al., 2009; Sjoerdsma and van Weele, 2015).

Today, innovation is increasingly characterized as a knowledge-creation process (Nonaka, 1994). However, existing research suggests that firms often lack the resources to fully develop internally the knowledge needed for successful innovation (Noseleit & de Faria, 2013). Consequently, firms often form strategic alliances to profit from the external knowledge required for innovation success (Doz & Hamel, 1997; Sivadas & Dwyer, 2000). In this sense, knowledge sharing has been positively linked to the improvement of new product development (Smith, Collins, & Clark, 2005; Zhou & Li, 2012), the transfer of best organizational practices (Pallotti, Tubaro, & Lomi, 2015) and the development of competitive advantage (Reagans & McEvily, 2003; Llopis and Foss, 2016). However, knowledge sharing also creates a specific context where the successful transfer of knowledge from alliance partners to the internal organization might boost the positive effects of strategic alliances on the proposed variables, exploitation and exploration and therefore, on new product development and innovation. Consequently, this knowledge transfer is expected to build a specific context where the proposed relationships may evolve, stimulating the chain of effects between strategies.

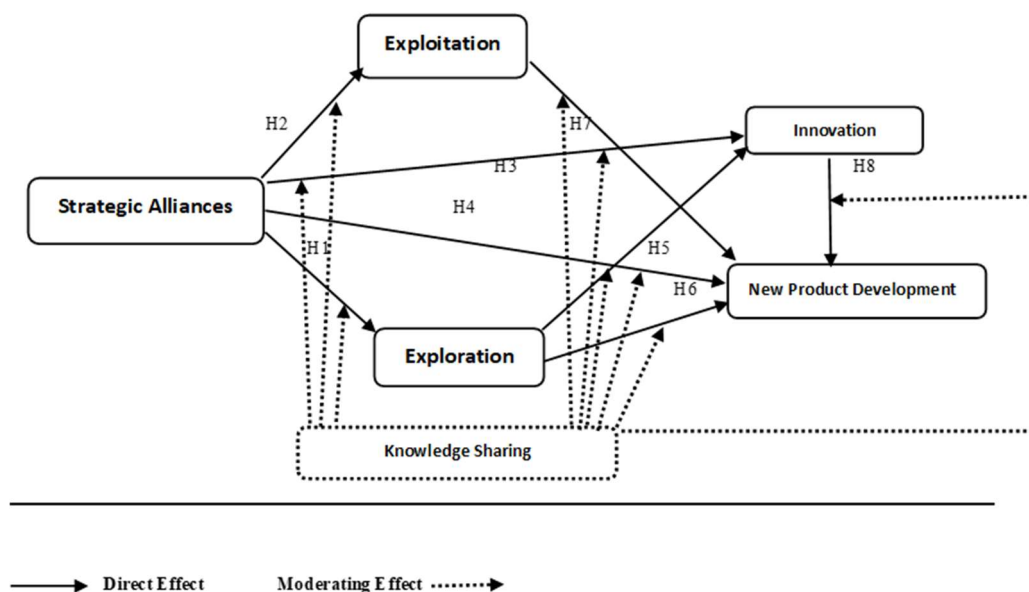


Figure 16 - The Conceptual Model

4.Method

4.1 Sample

To test the proposed research model and the research hypotheses, the data was collected through a structured questionnaire. Using information obtained from SME business associations, a total 262 questionnaires were collected from Portuguese SMEs. A snowball approach has been adopted, i.e. the 20 first respondents were asked to identify and ask 5 additional key respondents from other companies to complete this questionnaire.

In terms of lifespan, 23,4% were less than 6 years old, 19,4% between 7 and 12 years, 31,8% between 13 and 20 years old and 23,4% were below the age of 21. The respondents were spread throughout the country and no specific sector was represented. Such a sample has been used in other investigations like Vendrell et al. (2018) or Khamseh et al. (2017) and only 43,7% of the investigations in this field were reported as using probabilistic sampling.

It is verified that the percentage of respondents is distributed by CEOs (14,14%), CFOs (14,4%), Marketing Directors (10,9%), Commercial Directors (19,4%), Technical Officers (4,0%), General Managers (11,9%) and Administrative Staff / Others (24,9%). Out of all respondents, 48,3% were undergraduates, 14,9% a master's degree and the rest the Secondary Education. Finally, 31,8% of the respondents had between 13 and 20 years of experience and 44% between 2 and 12 years and the remainder less than 2 years.

4.2 Measures

To operationalize the variables, the researchers conducted a literature review and adapted scales used in existing studies, changing and adapting the vocabulary in order to help respondents understand the scales more easily (see Table 1). Technological capabilities and export performance were used as control variables, because literature supports the potential effects of strategic alliances on both.

Table 1 - Measures

Variable	Dimensions	Author/date
Strategic Alliances	The survey asked respondents to highlight their views of the items pertaining to management of strategic alliances. These five dimensions were measured using a seven-point scale, ranging from “strongly disagree” to “strongly agree”.	by Schilke (2014).
	1. Interorganizational coordination	
	<ul style="list-style-type: none"> a) Our activities with R&D alliance partners are well coordinated b. We ensure that our work tasks fit with those of our R&D alliance partners very well. c. We ensure that our work is synchronized with the work of our R&D alliance partners d. There is a great deal of interaction with our R&D alliance partners on most decisions. 	
	2. Alliance portfolio coordination	
	<ul style="list-style-type: none"> a) We ensure an appropriate coordination between the activities of our different R&D alliances b) We determine areas of synergy in our R&D alliance portfolio c) We ensure that interdependencies between our R&D alliances are identified d) We judge whether there are overlaps between our different R&D alliances 	
3. Interorganizational learning		

	<ul style="list-style-type: none"> a) We have the capability to learn from our R&D alliance partners. b) We have the managerial competence to absorb new knowledge from our R&D alliance partners c) We have adequate routines to analyze the information obtained from our R&D alliance partners d) We can successfully incorporate in our existing knowledge new information acquired from our R&D alliance partners. 	
	4. Alliance proactiveness	
	<ul style="list-style-type: none"> a) We strive to preempt our competitiveness by entering into R&D alliance opportunities b) We often take the initiative in approaching firms with R&D alliance proposals c) Compared to our competitors, we are far more proactive and responsive in finding and “going after” R&D partnerships d) We actively monitor our environment to identify R&D partnership opportunities 	
	5. Alliance transformation	
	<ul style="list-style-type: none"> a. We are willing to put aside contractual terms to improve the outcome of our R&D alliances b. When an unexpected situation arises, we would rather modify an R&D alliance agreement than insist on the original terms c. Flexibility, in response to a request for change, is characteristic of our R&D alliance management process 	
Exploration and Exploitation Capabilities	Were measured using two dimensions, competence exploration and competence exploitation, with five items each.	by Zhou and Wu, (2010).
	1. Exploration	
	<ul style="list-style-type: none"> a) Acquired manufacturing technologies and skills entirely new to the firm b) Learned product development skills and processes entirely new to the industry 	

	<ul style="list-style-type: none"> c) Acquired entirely new managerial and organizational skills that are important for innovation d) Learned totally new skills in funding new technology and training R&D personnel e) Strengthened innovation skills in areas where it has no prior experience 	
	2. Exploitation	
	<ul style="list-style-type: none"> a) Upgraded current knowledge for familiar products b) Invested in exploiting mature technologies that improve the productivity of current innovation operations c) Enhanced abilities in searching for solutions to customer problems that are near to existing solutions d) Upgraded skills in product development processes in which the firm already possesses rich experience e) Strengthened the knowledge and skills to improve the efficiency of existing innovation activities 	
Innovation	<p>A 10-item scale to measure innovation was used. Respondents were asked to indicate if they had:</p> <ul style="list-style-type: none"> a) Introduced a new product or a new quality of an existing product b) Introduced a new method of production or modified an existing method c) Found a new market or employed a new marketing strategy in an existing market d) Found a new source of supply e) Found new ways of managing finance f) Developed new structures, systems, or procedures g) Introduced a new culture especially through the introduction of innovative people h) Found new ways of managing and developing personnel i) Used new ways of managing quality control and R&D j) Found new ways of dealing with government and other external agencies 	by Ucbasaran et al., (2009)
New Product Development	<ul style="list-style-type: none"> a) 8a Introduce new generation of products b) 8b Extend product range c) 8c Open up new markets 	By Schilke (2014)

	d) 8d Enter new technology fields	
Knowledge Sharing	CEOs evaluated the company's knowledge position on 7- point scales in order to measure procedural knowledge sharing. We had 11 items pertaining to market and technological knowledge: a) Staff with a positive commitment to the company's development b) Technical expertise c) Expertise regarding development of products or services d) Highly productive staff e) Expertise on marketing f) Special expertise on customer service g) Special expertise on management h) Innovative markets i) Staff educated in delivering higher customer service j) Staff who like to contribute with ideas for new products/service k) Staff capable of marketing your products/services.	by Wiklund and Shepherd (2003), based on Gupta and Govindarajan (2000).

All the items were measured on a seven-point Likert scale (1=strongly disagree to 7=strongly agree). Confirmatory factor analysis was used to assess the psychometric properties of the scales and the measurement model adjustment, using AMOS Version 21.0. The final model shows a good adjustment (IFI=0,927; TLI=0,918; CFI=0,927; RMSEA=0,068; CMIN/DF=2,201).

Composite reliability (CR) and the average variance extracted (AVE) were computed. All the scales showed values above 0.8 on CR and above 0.7 on AVE, which are in line with the recommendations (Hair, Black, Babin, Anderson & Tatham, 2006). Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of

constructs is always smaller than the variance extracted for corresponding constructs (Shiu, Pervan, Bove & Beatty, 2011), thereby confirming the discriminant validity.

Table 2 - Square Correlations, Cronbach's Alpha Composite Reliability and Variance extracted

Construct	X1	X2	X3	X4	X5	CR	AVE
Exploration	0,88					0,91	0,61
Exploitation	0,65	0,89				0,88	0,61
New product development	0,63	0,61	0,91			0,91	0,71
Innovation	0,78	0,55	0,57	0,92		0,91	0,54
Strategic Alliances	0,48	0,62	0,54	0,53	0,93	0,88	0,61

Diagonal in bold - Cronbach's Alpha; CR - Composite Reliability; AVE - Average Variance Extracted

4.3 Common Method Bias

Based on the suggestions by Podsakoff and Organ (1986), a Harman's single factor test and a common latent factor (CLF) analysis were performed to capture the common variance among all observed variables in the model. Harman's test showed that any factor could explain more than 23% of variance and there were 10 factors with eigenvalues greater than 1, explaining 73% of total variance. A confirmatory factor analysis was conducted restricting all items of the model to load on a common single factor (Podsakoff & MacKenzie, 2003). The resulting adjustment indices show the model did not provide a good adjustment for the data: CMIN/DF=12. 02; IFI=0.66; TLI=0.653; CFI=0.660.

5. Results

Amos 21.0 was used to perform CFA and SEM to test the proposed hypotheses. The final model shows a good adjustment (IFI=0,927; TLI=0,918; CFI=0,927; RMSEA=0,068; CMIN/DF=2,201). A multi-group analysis was performed to test the moderation effects of KS, considering two groups: the low EO group (198 respondents) and the high KS group (184 respondents). A chi square test was performed to compare the two groups and the results show a significant difference between them. The differences between the

unconstrained model (chi square = 1 288,911; D.F. = 624) and the fully constrained model (chi square = 1378,458; D.F. = 654) show that the models are different (chi square = 50; D.F. = 30; $P \leq 0.01$; CV = 50,892) and that the moderation effects are significant. Table 3 shows the results of the estimation of the structural model. The adjustment of the model is good (Anderson & Gerbing, 1988).

Table 3 - Estimation of the Structural Model

Hypothesis	Relationship		r	C.R.	P	r	C.R.	P	r	C.R.	P	Supported/ Not Supported
H1	Exploration	← Strategic Alliances	.534	6.670	***	.424	3.725	***	.453	4.132	***	Supported
H2	Exploitation	← Strategic Alliances	.605	7.992	***	.495	4.244	***	.488	4.653	***	Supported
H3	Innovation	← Strategic Alliances	.259	4.136	***	.384	3.964	***	.133	1.610	***	Supported
H4	New Product Development	← Strategic Alliances	.136	1.548	***	.222	1.859	***	.202	1.595	***	Supported
H5	Innovation	← Exploration	.607	8.038	***	.530	5.489	***	.657	5.660	***	Supported
H6	New Product Development	← Exploration	.348	7.743	***	.268	2.423	***	.292	1.823	***	Supported
H7	New Product Development	← Exploitation	.277	3.707	***	.286	3.022	***	-.193	-1.689	***	Supported
H8	New Product Development	← Innovation	.145	1.562	***	.217	1.701	***	-.039	-.280	***	Supported
		GLOBAL				High KS(n=189)			Low KS(n=198)			
		(n=387)										

Source: Self elaboration

6. Findings and discussion

The results show that management of strategic alliances has a positive and significant effect on exploration and exploitation capabilities, consequently supporting H1 (0.534 ; $P=***$) and H2, (0.605); $P=***$). These results are in line with the literature, suggesting strategic alliances, particularly those adopted by new ventures for new product development (Bouncken, Pesch, & Gudergan, 2015; Rothaermel, 2001; Rothaermel & Deeds, 2004), seem to serve as a promising vehicle through which new ventures pursue an increase and a better balance between exploration and exploitation (Kauppila, 2010; Lavie, Stettner, & Tushman, 2010; Talebi et al., 2017). Even if strategic alliances may

provide opportunities for new ventures to reduce possible imbalances between their exploration and exploitation, alliances for new product development may make new ventures rely too much on alliance partners for outsourcing exploration or exploitation (Kauppila, 2010; Zang et al., Dai et al., 2017). Consequently, these results are in line with those from Cacciolatti et al., 2020, who researched strategic alliances in an SME context.

However, these results give substantial support to the impact on exploitation and exploration and results are similar for both groups, low knowledge sharing and high knowledge sharing. Companies can exploit the knowledge resources through proper knowledge management, in order to create value (Zack et al., 2009). Knowledge creation/acquisition is explorative in nature, as it aims at creating new knowledge. Knowledge sharing, storage/documenting, and application is exploitative in nature, as it aims to exploit and leverage the knowledge resources (Grant, 1996; March 1991; Shamim et al., 2017). Therefore, these results confirm one contribution to filling the gap between exploration and exploitation and knowledge sharing.

Strategic alliances have a positive impact on innovation and new product development, thus supporting H3 (0.259; P=***) and H4 (0.136; P=***). Literature shows how strategic alliances may bring different types of knowledge and boost innovation (Bercovitz and Feldman, 2007; Hohberger et al., 2015). At the same time, these resources brought by alliance partners, once integrated and developed, may provide a significant contribution to foster the NPD process and outcomes (Smith et al., 2005;). Accordingly, acquiring knowledge from alliance partners may be critical to the innovation process and its results (Conner & Prahalad, 1996). These results are in line with the literature that states that strategic alliance involves exchange of service, knowledge and co-development of products (Ziggers and Henseler, 2009). The access to important resources, exchange of methods and processes allows innovation and drives change across the company (Ricciardi, 2014; Salisu,& Abu Bakar, 2018). Strategic alliances enable SMEs to both target niches disregarded by major competitors, and to penetrate the largest market dominated by major competitors (Lee, Lim, and Tan, 2000). Hence, it is not only strengthening the competitive capacity of SMEs, but also protecting against aggressive competitive actions from major competitors (Lee, Lim, and Tan, 2000).

Consequently, firms often form strategic alliances to profit from the external knowledge required for innovation success (Doz & Hamel, 1997; Sivadas & Dwyer, 2000). The

results achieved give additional support to the effects of strategic alliance management on innovation and new product development. Results are similar for both groups, however, in the case of the impacts on innovation, this impact seems bigger for the high knowledge sharing group ($r=0.384$, against $r=0.133$). The contributions of alliances to learning and knowledge sharing are well known, and when this sharing is higher, the impact on innovation tends to increase (Inkpen, 2002). These are according to O'Dwyer & Gilmoreb (2018), that the literature, SME survival depends on the recognition and exploitation of market opportunities, a strategy which is impacted by their capabilities and their value orientation (for example, Shane & Venkataram, 2000; Zahra, Korri, & Yu, 2005).

Exploration has a positive impact on innovation and on NPD, thus supporting H5 ($r=0.607$; $P=***$) and H6 ($r=0.348$; $P=***$). This result is in line with the literature that shows that exploration has a positive relationship with innovation and new product development (Yalcinkaya, Calantone and Griffith, 2007). These results are in line with the literature that says exploration activities stimulate the development of product characteristics (Kim & Atuahene-Gima, 2010; O'Cass et al., 2014; Tabeau et al., 2017) and innovation (Molina-Castillo et al., 2011). For instance, Kim and Atuahene-Gima (2010) find that explorative market learning (i.e. the acquisition and use of knowledge outside an organization's current customer and competitor boundaries) has a positive influence on product innovation. In this sense, prior experience in exploration (exploitation) can reinforce the tendency to explore (exploit) new products and solutions (Lavie & Rosenkopf, 2006), providing opportunities for new ventures to reduce possible imbalance between their exploration and exploitation for new product development (Kauppila, 2010; Dai et al., 2017). The results are in the same direction for both groups. However, the impacts on innovation are bigger for the low knowledge sharing group ($r=0.657$, against $r=0.530$) as well for NPD ($r=0.292$, against $r=0.268$). These results are in line with literature that sustained that innovation requires companies to explore new capabilities and exploit current ones (Wang & Hsu, 2014), which rely on explorative and exploitative learning within the organizational learning domain (Tamayo-Torres, Gutierrez-Gutierrez, & Ruiz-Moreno, 2014; Valaei et al. 2019).

The results show that exploitation has a positive and significant effect on new product development, consequently supporting H7 ($r=0.277$; $P=***$). However, this correlation behaves differently between the 2 groups: In the case of the high knowledge sharing group

the relationship is positive ($r=0,286$), while for the low sharing group the relationship is negative ($r=-0,193$). Exploration means capacity of anticipating the future and understanding actual and future trends like new customer demands, new technologies or new and emerging market structures (Katila & Ahuja, 2002; Kim & Atuahene-Gima, 2010). Exploration capabilities are, therefore, good predictors of new product development capacity, especially when balanced with exploitation (Wang & Rafiq, 2014; Lee et al., 2018) and our results support this idea. However, when knowledge sharing is low this influence might be negative. Perhaps, when exploration demands too many resources and these resources are scarce (sometimes disputing them with exploitation), if the alliances do not provide enough knowledge, the capacity to develop new supply might be reduced (Koste, Malhotra & Sharma, 2004; Wei, et al., 2013), especially because exploration might not bring novelty and exploitation might be less operative.

Finally, the results show that innovation capacity has a positive impact on new product development, thus supporting H8 ($r=0.145$; $P=**$). This relationship is similar for the high knowledge sharing group ($r=0.217$). For the low knowledge sharing group, however, the impacts are negative ($r=-0.039$). According to the literature, innovation capacity may improve quality and benefit from complementary knowledge throughout the new product development process (Harmancioglu, 2007; Song et al., 2016). SMEs have certain advantages over large firms such as their organizational flexibility, rapid response to market changes and their innovative potential (Hall et al. 2009; Terziovski 2010; Rehman, 2015). Innovation capacity combines and leads to the application of new ideas (Rauter et al., 2018) that turn into new products and is one of the best predictors of NPD. Nevertheless, this innovation capacity may not be effective when knowledge sharing is low. Apparently, innovation capacity might act as a trap, consuming resources, while having limited effects on the development of new supply or even limiting the action of the current adaptability skills that might produce small changes and small innovations in the actual offers. In fact, knowledge sharing enhances the performance of the innovation process and overall NPD success (Lawson et al., 2009; Sjoerdsma & van Weele, 2015; Hånell et al., 2017), and its absence may ruin the innovation efforts of a firm.

7. Implications

The goal of this paper is to better understand how the management of a strategic alliance and the resources provided influence new product development, through the effects of exploration and exploitation capabilities, the speed to market, and how Knowledge Sharing process moderate such effects. We built our conceptual arguments by an integrating resource-based view and coordination literature and tested the hypotheses in the context of SME's strategic alliances in Portugal.

This research is grounded on the dynamic capabilities that underpin the firms' ability to generate strategic ambidexterity (Benner & Tushman, 2003). Drawing on different approaches to analyze strategic alliances and exploration and exploitation capabilities, organizational learning, organizational design and technological innovation (Luo & Rui, 2009), this paper researches exploitation and exploration capabilities in the context of innovation in SME's firms. In this framework, our research provides several important inputs. Therefore, this research presents four major inputs: (1) we provide additional nuances that enhance understanding of the use of exploration and exploitation in the context of SME's and our results are in line with Yalcinkaya et al. (2007), and Lisboa et al. (2011), who suggest the existence of an optimal pathway for deploying exploration and exploitation capabilities; (2) This paper helps fill the gap between strategic alliances and new product development, introducing the mediation of exploration and exploitation in the dynamic capabilities view; (3) The study found the emergence of a suppression effect on strategic alliances and new product development relationships in the role of knowledge sharing; (4) This paper introduces the analysis of the effects of knowledge sharing on how strategic alliance relationships at corporate level relate to dynamic capabilities and innovation and new product development. Additionally, these results shed light on how a company should enter and select partners for a strategic alliance, based on the specific resources and skills that might maximize the internal knowledge and capabilities to develop and reconfigure the potential for innovation, new product development and respond to market opportunities.

In this sense, this study researches the effect of the learning approach of a firm in a strategic alliance on the use of knowledge acquired through the partner. Significant theoretical developments in the literature suggest that modes of learning have different

impacts on the application and utilization of knowledge sharing for innovative outcomes (Grant & Baden-Fuller, 1995, 2004; Lubatkin et al., 2001), mainly because the firm in each approach applies different sets of actions to benefit from external knowledge (Chen, Hsiao, & Chu, 2014; Fey & Birkinshaw, 2005). In fact, this paper gives additional clues on how strategic alliance capabilities combined with knowledge sharing might facilitate resource development, reconfiguration and renewal, to increase innovation, new product development and performance. These new issues may give important clues to move forward on the research on the management of strategic alliances, once the sharing of resources and knowledge is a critical aspect for the decision to embrace it in a strategic alliance. Furthermore, in SME's strategic alliances in Portugal, the strategic objective often is to bring the foreign partner's superior marketing capabilities into the Portuguese market, through the development of innovative products. Therefore, our approach and our results contribute to filling the identified gaps, suggesting that the strategic alliances are significantly related to innovativeness and new product development, identifying the pathways to achieve these outcomes.

The management of strategic alliances is the combination of specific and strategic resources that may help to overcome the lack of resources and capabilities for achieving the strategic objectives of a firm. This research shows how managers may take advantage of strategic alliances to reinforce the dynamic capabilities, exploitation and exploration. In other words, to better operate their actual resources and knowledge and to obtain new knowledge and new resources that may drive the company far beyond its actual boundaries. Therefore, results show how they may help to reach a better position on innovation and a superior performance and competitiveness, especially when a climate of knowledge sharing may be established between the partners of the strategic alliance.

8. Managerial implications

To fill this managerial important gap, we propose a process model in which the main antecedents of alliance stability will be examined. We argue that an alliance's evolutionary dynamics depends on these factors and variables that the partners must access and manage over its developmental stages. Achieving tangible benefits from the alliance learning process requires managerial adjustments over time as the partnership evolves and partners gain more knowledge about each other (Hughes and Weiss 2007; Inkpen 2008). In this sense, managers have significant scope to influence the ultimate success of strategic alliances. This study highlights the need to actively manage the

cooperation– competition (coopetition) tension with the alliance partner and to apply knowledge acquired from the partner to create new knowledge to enhance innovative performance. Alliance learning involves two forms: within alliances and from alliances. In this regard, managers engaging in strategic alliances should perform at least two tasks: When a firm engages in joint value creation with its partner, it is also important to facilitate the internalization of knowledge acquired from the partner to convert it into new knowledge that is useful to the company. Knowledge acquisition may be enhanced through strong ties with key knowledge providers that facilitate access to the knowledge of alliance partners, even in the case of Portuguese SMEs (Ganesan, Malter, and Rindfleisch 2005). Companies in alliances must establish a learning culture, which not only emphasizes obtaining the knowledge of others, but also prioritizes its actual application toward new knowledge creation in the innovation process. Inter-company competition often encourages companies to enhance their performance. In strategic alliances, the effect of competition can lead to aggressive knowledge acquisition from partner companies. Notably, many alliances fail because of interfirm rivalry (Park and Ungson 2001). When firms merely pursue self-interests (competition), but neglect common benefits (from cooperation), partner firms may lose motivation to continue the alliance. To prevent early termination of alliances, managers should prioritize building a cooperative relationship, even with competitors (Cui, Calantone, and Griffith 2010). Managers must identify trade-offs between cooperation and competition so that alliances can stay stable but vital and alert enough for successful knowledge acquisition. This can be an important criterion when managers seek potential alliance partners. As predicted, the findings confirm that firm capabilities drive the effectiveness of knowledge transfer activities. More substantively, while our finding supports the notion that the fruits of exploration are inherently stochastic, because novel combinations that work cannot be accurately predicted, we can improve theoretical precision by unpacking the organisation and human cognitive processes involved in exploration. In terms of the moderating role of knowledge sharing in the relationship between capabilities and innovation and economic performance, our results show that the positive impact of firm exploration capabilities attenuates when a replication mechanism is used to transfer knowledge. The positive effect of exploitation on economic performance is strengthened when replication mechanisms are used. If the purpose of exploitation is to extend a given set of knowledge assets into new domains, it is not surprising that the least cost methods of doing so will do better at producing positive economic outcomes.

Overall, the alliance diversity of partners is particularly important for SMEs, because they may lack resources to develop and maintain multiple ties (Parida, Patel, Wincent, & Kohtamaki, 2016). Strategic alliances must be managed like a puzzle or a chessboard, looking to fulfill the company's gaps in terms of tangible and intangible resources, to overcome difficulties, improving their dynamic exploration and exploitation, and to boost innovation capacity and new product development.

9. Limitations and Future Research

This study has some methodological limitations affecting its potential contributions. As a cross-sectional study that captures one image in time, its ability to identify strict causality between variables is limited, given the scope and methodology adopted. About this subject, our model has left some variance unexplained, which peer researchers might feel interested in exploring. For example, there may be other organizational resources/capabilities in addition to marketing and managerial capabilities that drive firm performance, such as networking capability and production capability, among others. Also, we did not control for ownership, which can be an important institution that influences the decision-making of companies, capability use and performance. As for recommendations for future work, the model could be tested by introducing variables like entrepreneurial and market orientation, both as mediators or moderators.

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INVESTIGATION 5

Alliance Management Capability, Knowledge Sharing and Technological Capabilities in Export Performance and the role of Ambidexterity

Abstract

This study looks into the direct and indirect impact of alliance management capabilities on export performance, by examining the mediating effect of knowledge sharing and technological capabilities, moderated by ambidexterity. A framework of export antecedents is developed and empirically tested. This research is based on a sample of 262 Portuguese exporting companies and data collected through a structured questionnaire answered by a key respondent of the top management of the contacted companies. Results show that alliance management capabilities have direct and indirect impacts on export performance through knowledge sharing and technological capabilities, based on the relational capabilities and dynamic capabilities perspectives. These results point at the important role of alliance management capabilities, shedding light on how intangible resources can be used by companies to enhance export performance, highlighting also the role of knowledge for leveraging the export performance of businesses. The findings have relevant theoretical implications, researching the direct and indirect effects of alliance management capabilities on export performance, in particular through the effects of knowledge sharing and technological capabilities. The moderating role of ambidexterity reinforces the positive implications of these findings.

Keywords: Alliance management capabilities; Knowledge Sharing; Technological Capabilities; Export Performance; Ambidexterity

1. Introduction

Over the past decades, the importance of strategic alliances has substantially increased, and they have been a response to the challenges of market globalization. Alliances play a critical role in firm survival, since they foster access to critical resources and capabilities that allow gaining and maintaining competitive advantages in today's turbulent economic environment (Wu, et al., 2017; Bouncken, et al., 2020). These resources and capabilities, referred to as alliance management capabilities (Lambe, 2002), have been regarded as key resources for helping firms to effectively pursue their interorganizational relationships (Niesten, & Jolink, 2015; Leischnig, & Geigenmüller, 2020).

Strategic alliances contribute to the firm's competitive advantage by determining performance outcomes (Musarra & Katsikeas, 2016). The different types of

collaborations and partnerships involved in strategic alliances enable SMEs to build trust and credibility (Jiang & Liu, 2015), and to grow their markets. Empirical research on the relationship between strategic alliances and firm export performance has so far been inconclusive (Rothaermel & Deeds, 2004). Some alliances benefit the organizations, while others are detrimental to the development of SMEs (Lerner & Tsai, 2003). For instance, some studies demonstrate that SMEs are better off alone (Rosenbusch, Brinckmann, & Bausch, 2011), and others do not discount collaborations, but point out the risks associated with it (Hagedoorn, & Zobel, 2018).

The essence of the ability to manage, integrate and learn from strategic alliances has long been a central topic in business marketing (Gomes et al., 2016, strategic management research (Guo et al., 2017), entrepreneurship (Felzensztein & Freeman, 2014) and operations research (Waleczek et al., 2019). However, specifically, alliance management capabilities refer to the abilities of companies to capture, share and store knowledge regarding alliance management and to use this knowledge in ongoing and future alliances (Leischnig, & Geigenmüller, 2020). Studies on alliance management capabilities frequently adopt a dynamic capabilities perspective (Teece et al. 1997; Helfat & Raubitschek, 2018) and make theoretical claims that alliance management capabilities are higher-order resources that influence the lower order alliance-level resources (e.g. Niesten and Jolink, 2015). Given the recognized relevance of alliance management capability (Draulans et al., 2003), or relational capability (Singh, 2017), (alliance capability phenomenon has received several labels) (Niesten & Jolink, 2015), there is a surprising lack of consensus on the core processes involved in alliance capability, its antecedents and outcomes. The crucial role played by relational capabilities in creating and capturing value through alliances has been demonstrated in the literature.

The foundations of our study stress the importance of alliance management capabilities, which play a catalyst role in the relationship between intangible resources and export performance, contributing to filling the gaps identified by Yang et al. (2019). In fact, research like the one by Rothaermel and Deeds (2004) on the relationship between alliance management capability and the export performance of companies has so far been inconclusive. Minimal empirical consideration has been given to the potentially varying effects of different alliance management capability components, limiting understanding of their complementary and/or substitutive roles in shaping inter partner

attributes and export performance outcomes in international strategic alliances (Ferrerias-Méndez et al., 2019; Zahoor & Lew 2022; Nakos et al., 2020).

According to Robson et al., (2019), a review of the literature indicates that various approaches have been followed in assessing the role of alliance capabilities. Researchers conceptualize such capabilities as a unidimensional construct (Gammoh & Voss, 2013), or as a multidimensional construct assessed either as a composite (Lambe, Spekman, & Hunt, 2002) or a higher-order construct comprising different dimensions (Schilke & Goerzen, 2010). In this sense, according to Li et al. (2019), the choice of the alliance partners might have implications on how to achieve superior technology capabilities and performance and these relationships are yet to be researched. Alliance management is a form of dynamic capability of transforming the organization's competences and even technology, but literature shows that it is not sufficient per se: other resource exchanges must be identified (Yang & Meyer, 2019). Therefore, the processes underpinning the alliance management on an international environment are yet to be investigated (Pereira et al., 2021) and may help explaining how they may boost the performance indicators, like export performance. Additionally, alliance management capability is a specific form of relational capability that has properties of dynamic capability in that it enables transformation of firm resources to pursue future business opportunities (Teece et al., 1997). However, we argue that alliance management capability alone is not sufficient. Firms also need resources that, according to Yang, and Meyer (2022), remain as a gap, regarding the interaction of firms' internal resources and capabilities, with alliance management capability (Wang & Rajagopalan, 2015).

Specifically, we argue that complementary capabilities, i.e., technological capabilities and knowledge sharing, strengthen the association of alliance management with firm performance indicators. The present research seeks to look into the influence of the alliance management capabilities on export performance, through the effects of knowledge sharing and technological capabilities. Therefore, the major contributions of this study are to fill the gaps in researching the role of alliance managerial capabilities of SMEs for achieving superior export performance, establishing the chain of effects to achieve it. According to the literature, (Cacciolatti et al., 2020) alliance management capability contributes to the company's competitive advantage by determining performance outcomes (Musarra & Katsikeas, 2016). This study is based on a sample of 262 Portuguese SMEs, and data was collected through a structured questionnaire. It

advances extant knowledge by transferring the concept of alliance management capability to the SME's context in a transition economy, highlighting its role as a critical capability of SMEs, and explaining its implications for export performance, based on cooperation and knowledge sharing, and the possible effects on technology.

The innovative side of this study is based on the perspective of alliances management capabilities enabling an osmosis with the organizational capabilities, within the scope of SMEs, and on their internationalization with a view to export performance. While the literature emphasizes the importance of knowledge sharing and foreign market knowledge for export performance (e.g., Jin & Jung, 2016; Stoian, Rialp, & Dimitratos, 2017), it pays limited attention to the role played by knowledge sharing and the mediating mechanisms connecting knowledge sharing and technological capabilities with export performance (for exceptions see Falahat et al., 2020; Martín et al., 2022). Uncovering the black box of mechanisms driving SMEs' export performance, it offers managers and policy makers new possibilities to make better support the managers' decisions.

We have organized our paper into six sections. In the next sections, we present our underpinning theories, theoretical model, and hypotheses development. In the third section, we discuss our research design, outlining how we developed our measuring instrument, the sampling design, and the data collection strategy. In the fourth section, we present our data analysis using SEM. In the fifth section, we discuss the findings of our statistical analyses. In this section, we highlight our main contributions to theory and practice. Finally, we outline the limitations of our study, which leads us to set out areas for further study and research questions which remain unaddressed.

2.Theoretical framework and hypothesis development

Alliance Management Capabilities

The recent literature on alliances has argued that alliance management capabilities are an important antecedent of performance (e.g. Feller et al. 2013; Nasr. 2019). Specifically, alliance management capabilities point at the abilities of companies to capture, share and store knowledge regarding alliance management and to apply this knowledge in ongoing and future alliances (Russo & Vurro, 2019).

Alliance management capability might be defined as the firm's capacity “to purposefully create, extend, or modify the firm's resource base, augmented to include the resources of its alliance partners” (Helfat & Peteraf, 2009, p. 66). Prior research agrees that alliance management capability is a multidimensional construct relying on organizational routines that represent rule-based behavioral patterns for interdependent corporate action (e.g.Cabello-Medina et al., 2020). One of the main reasons why firms participate in alliances is to learn or absorb the know-how, skills and capabilities from their partners (Al-Laham et al., 2010). Thus, routines that allow collaborating firms to systematically absorb external knowledge are key to make interorganizational learning successful (Dyer and Singh, 1998). These routines or set of organizational processes designed to integrate and facilitate knowledge transfer from R&D alliance partners are the so-called interorganizational learning capabilities (Cabello-Medina et al., 2019)

Alliance management capability may help “to purposefully create, extend, or modify the firm's resource base, augmented to include the resources of its alliance partners” (Helfat et al., 2007, p. 66), allows firms to better identify and take advantage of strategic alliances (Donbesuur et al., 2021). Multiple studies have highlighted the importance of alliance

management capability and related processes. Although studies may use a variety of concepts, including coordination, management, and control, they all seem to refer to capabilities that are related to managing alliances (Smirnova et al., 2011). Interestingly, studies vary in relation to the extent to which alliances can be managed, coordinated or facilitated (Ritter et al., 2004).

Studies on AMC frequently adopt a dynamic capabilities perspective (Teece et al. 1997; Petricevic & Verbeke, 2019) and make theoretical claims that AMC are higher-order resources that influence the lower order alliance-level resources (e.g. Ferraris et al., 2019). Examples of such lower-order resources include various attributes of the alliance relationship, such as information and knowledge-sharing between partners, shared partner understanding and a focus on collective goals (e.g. Goerzen, A., & Beamish, P. W. 2005). The theoretical conjecture of studies on alliance management capabilities is that alliance management capabilities improve alliance success, because such capabilities enable partners to adjust the attributes of the alliance based on environmental changes (e.g. Schilke and Goerzen 2010).

Therefore, alliances may be a possible alternative to obtaining required resources that are outside business boundaries (Das & Teng, 2000). As such, alliance management is a critical strategic domain that allows the organization to alter its resource base. Authors agree, therefore, on the importance of influencing the behavior of partners for promoting innovation and performance. Building on the literature, we define alliance management capability as a firm's ability to manage strategic alliances by resorting to the appropriate processes of alliance target setting, task implementation and evaluation. With respect to the structures identified in prior research, as comprehensively, many studies highlight the role of a dedicated alliance function (Kale & Singh, 2009) and the use of alliance specialists (Draulans et al., 2003; Kale & Singh, 2009) in alliance management. With respect to the activities of the alliance function, studies list processes and activities, such as alliance target setting (Niesten & Jolink, 2015), task implementation (Ritter & Gemünden, 2004), and alliance evaluation and monitoring (Draulans et al., 2003). Studies also note the importance of codified alliance management tools, suggesting tools such as a trust-building worksheet or a conflict-resolution tool (Draulans et al., 2003). Some studies also consider alliance management as a capability that enables a company to adjust its alliance relationships based on changes in the business environment (Niesten & Jolink, 2015; Kohtamäki et al., 2018).

In line with prior research, this article describes alliance management capability in four dimensions: alliance proactiveness, alliance transformation, interorganizational coordination, and interorganizational learning. Alliance proactiveness refers to a business's "efforts to identify potentially valuable partnering opportunities" (Sarkar, Echambadi, & Harrison, 2001, p. 702). As a sensing routine, alliance proactiveness enables organizations to identify market requirements and new opportunities to acquire resources (Schilke & Goerzen, 2010). Alliance transformation refers to the flexibility of transfer partners to adapt the transfer process in reaction to changing conditions (Reuer & Zollo, 2000). Interorganizational coordination pertains to the governance of individual alliances. According to Schreiner & Corsten (2009, p. 1401), interorganizational coordination aims to "identify and build consensus about task requirements in a given alliance, the nature of the associated interdependence between partners, and the specification of working procedures for task execution." Interorganizational coordination ensures efficient alliance governance and greater transaction legitimacy among partners (Kumar & Nti, 1998). Finally, interorganizational learning refers to the ability to acquire and utilize technological knowledge throughout the technology transfer process (Lane & Lubatkin, 1998). Since transferring technological knowledge and technology is a primary objective of development of international technology transfer, the capability to transfer knowledge effectively is central to success (Mowery & Silverman, 2002). Extant studies provide strong conceptual and empirical support for the positive impact that a firm's dynamic alliance management capability can have on various outcome measures, such as alliance success, firm performance, and stock market returns (Pedada et al., 2019).

The knowledge-based view of the firm (Kogut and Zander, 1996; Spender, 1996) as well as the open innovation literature (Dahlander and Gann, 2010) highlight that valuable knowledge exists not only within organizational boundaries, but also outside the firm. As such, firms' ability to explore, acquire, retain, integrate and exploit knowledge (Grant, 1996), is central to firm value creation (De Silva et al., 2018). Therefore, according to the same theory (Grant, 1996) firms, in choosing alliance strategies, are moved by the aim of "learning". Through cooperative arrangements, organizations can enhance and reinforce their knowledge base. According to Kale & Singh (2007) firms, from prior experience, learn more about alliance management and develop alliance know-how that could be used in future alliances. Strategic alliances become a popular vehicle for organization learning

and knowledge sharing (Jiang et al., 2016). Table I shows examples of investigation on alliance management capabilities and related constructs.

Table 1 - Construct linked variables

Basis	LINKED CONSTRUCT	REFERENCES
Alliance management capabilities	Knowledge sharing	Ganguly, Talukdar & Chatterjee (2019); Marshall, Nguyen & Bryant (2005); Leischnig & Geigenmüller (2020); Ling-Yee & Ogunmokun (2001); Lu & Beamish (2001); Pham, Le Monkhouse & Barnes (2017); Khisa, J. W., & Kariuki, P. (2022);
	Technological capabilities	Bae, H. S., & Grant, D. B. (2018); Tiwana, A. (2008); Bamel et al. (2021); Argote, L., Lee, S., & Park, J. (2021); Carmeli et al., (2021); Kosasih, K., & Nugroho, A. W. (2021); Zhang et al., (2020); Seo et al., (2022); Martínez-Noya, A., & Narula, R. (2018); Zahra et al., (2020).
	Export performance	
	Ambidexterity	

Alliance Management capabilities and technological capabilities

The technological capability is the distinctive partner capability in the alliance literature. Most authors defined technological capability as the ability to develop new process or product technologies such as significant R&D operations, to develop and commercialize new products, and know-how, and so on (Yu et al., 2014). The main advantage of technological capability is accessibility to non-overlapping technological resources and know-how, which allow firms to more easily respond to the challenges of a discontinuous and turbulent technological breakthrough (Jalali, 2017).

Strategic alliances are inter-firm collaborations that involve the use of resources and governance structure of independent firms to achieve a specific organization-related goal or a goal set by both firms (Parkhe, 1993). They serve as a gateway to the distribution and appropriation of technological capability and knowledge that could be the source of a firm's competitive advantage (Wu & Lee, 2007). Vanhaverbeke and Noorderhaven (2002) argued that these external technologies enable organizations to stay abreast in less time, with less complexity, and lower internal technology development costs. The technological capacity of businesses tends to increase, leading to competitiveness in the industry (Montoya & Martin, 2007). The increasing importance of organizations acquiring external technologies has instilled research into this area recently. The growing number of alliances formed across countries indicates the

significant efforts that organizations are putting into enhancing their technological capabilities (Norman, 2004; Kavusan et al., 2017). Consequently, the following hypothesis is proposed:

H1: Alliance Management Capabilities positively impact Technological Capabilities

Alliance Management capabilities and Knowledge Sharing

Knowledge is defined as the “information processed by individuals including ideas, facts, expertise and judgments relevant for individual, team, and organizational performance” (Alavi & Leidner, 2001). On the other hand, knowledge sharing is known as the “provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas or implement policies or procedures” (Akram et al., 2020). In particular knowledge-based dynamic capabilities related to radical innovation are knowledge acquisition and knowledge sharing (Schulz, 2001). Knowledge acquisition capabilities are the process of obtaining and accumulating knowledge, while knowledge sharing capabilities are the process of sharing the newly created knowledge. Both capabilities are found to contribute to innovation performance (Cheng et al., 2017). Although alliances management capabilities offer opportunities for knowledge sharing, they also carry the risk of knowledge leakage to partner (Russo & Cesarani, 2017).

Knowledge sharing can help firms to survive in the marketplace (through zero-order dynamic capabilities: Winter, (2003), to build resources and capabilities (first-order dynamic capabilities: Teece et al., 1997), and to develop the capacity to build capabilities (second-order dynamic capabilities (Pandit et al., 2018). Therefore, a firm’s alliance management capability can thus be its ability to internalize alliance knowledge (Eisenhardt and Martin, 2000). Essentially, we view alliance capabilities as a multilayered phenomenon: learning mechanisms (i.e. organizational attributes, such as an alliance department) are the building blocks of routines which again form the basis of a company’s alliance capabilities (Zollo and Winter, 2002). Notwithstanding the relevance of these issues, as different studies have confirmed (e.g. Leonard & Swap, 2004), mechanisms fostering knowledge-sharing can be seen as prerequisites for success, which serve to disseminate knowledge in order to prepare and also foster constructive behavior by those involved (Kanter, 1994). In fact, alliance management capabilities are a popular vehicle for organizational learning and knowledge-sharing (Jiang et al., 2016; Russo & Cesarani, 2017). In strategic alliances, inter partner knowledge sharing is the process by

which an alliance makes knowledge available to the entire alliance, and is an effective way for partner companies to extend their knowledge bases and develop new knowledge in a relatively cost-effective manner (Robson et al., 2019). Therefore, Zhang et al. (2010) argue that knowledge acquisition facilitates knowledge creation opportunities. In the same vein, we postulate that acquiring knowledge from alliance partners would be a prerequisite for creating new knowledge.

Consequently, the following hypothesis is proposed:

H2: Alliance Management Capabilities positively impact Knowledge Sharing

Alliance Management Capabilities and Export Performance

Export performance is defined as the outcome of a company's activities in the export market (Chen & He, 2016), as the extent to which a firm's – strategic and financial objectives with respect to exporting a product to a market, are achieved via the implementation of the firm's export marketing strategy (Cavusgil & Zou, 1994). It is the degree to which the firm accomplishes its goals when selling an item to an international business sector (Guillet, B. D. 2020). and as the outcomes of the company's international activities (Jalali, 2013). Export performance was considered a significant and vital element in determining the success of the operations of any business (Nuseir, 2016). Export performance can be explained as the outcome of exportation and thus it is the extent to which the firm achieves its purposes when exporting products or services to international markets (Guillet, B. D. 2020).

Recent literature on alliances has argued that alliance management capabilities (AMC) are an important antecedent of export performance (e.g. Niesten and Jolink, 2015). For SMEs, alliance management capabilities create value through the combination of complementary resources and capabilities beyond firm boundaries (Mindruta et al., 2016), and are particularly effective in helping a company gain and maintain a competitive advantage in dynamic, volatile and uncertain international environments. Partner selection and partner characteristics appear to play a significant role in the outcome of alliances, particularly in international markets (Arranz et al., 2016), where companies are faced with the complex, dynamic, interrelated and volatile environment. The previous literature points out the formation of alliances as a way of SME internationalization (Arranz et al., 2016).

According to Schilke & Goerzen (2010), and Kale and Singh (2007), alliance management capabilities tend to increase learning capabilities, and therefore improve alliance export performance. Recently, Jalali (2017) argued that the most significant outcome of alliance management capabilities in international markets is export performance. Consequently, the following hypotheses are proposed:

H3: Alliance Management Capabilities positively impact Export Performance

Knowledge Sharing and Technological Capabilities

The relationships between knowledge sharing and technological capability have been previously studied; however, a limited number of studies has been conducted using small and medium-sized enterprises (SMEs) instead of large companies as the research focus, even though SMEs represent a relevant portion of certain knowledge-intensive sectors. Researchers explored the influence of KS on TC from a range of perspectives, including knowledge sharing (Liao et al., 2007), knowledge-sharing process (Yesil et al., 2013; Iqbal, A. 2021), the subject of knowledge sharing (Yesil, 2013), etc., and the factors affecting knowledge sharing, providing useful guidance for company knowledge sharing and technological capabilities. In response to the growing importance of knowledge management, researchers have started to identify the presence of barriers to knowledge sharing in different organizational and industrial settings (Filiari & Algezau, 2014).

This might be boosted based on the full potential of R&D cooperation with alliance partners. The easier it is for a business to assimilate knowledge sharing from outside sources the stronger its technological capabilities will be, and the greater the chances of proving that such knowledge sharing is useful for developing new technologies and, therefore, new innovative products (Gupta et al., 2000; Akram et al., 2020). Consequently, the following hypothesis is proposed:

H4: Knowledge sharing positively impacts Technological Capabilities

Knowledge sharing and export performance

Recent investigation on the internal and external determinants of export performance has grown considerably (Behyan et al., 2015; Brouthers et al., 2015; Chen et al., 2016). In particular, the relationship between organizational capabilities and export performance is crucial because a firm that has attained the former often achieves higher economic value than that of its competitors.

According to Arifin and Khuzaini (2019) export intensity or export sales ratio to total sales is suggested as effective measures for export performance. In previous studies, Cooper and Kleinschmidt (1985) and Aaby and Slater (1989) stated that the higher the companies involved in international markets, the greater the percentage of sales achieved by the company. Therefore, besides the value creation potential of knowledge, there is a stream of literature relating to the role of knowledge in firms' internationalization (Johanson & Vahlne, 1977; Eriksson et al., 1997; Freixanet & Renart, 2020; Yli-Renko, Autio & Tontti, 2002; Martín et al., 2022). A corollary is that it is important for firms to understand the foreign markets in which they do business to succeed internationally.

SMEs tend to lack substantial financial and human resources, and face difficulties to develop new knowledge quickly, missing those primary resources that bigger firms typically use to succeed in foreign markets. Internationalization has been described as a process that relies on learning and knowledge accumulation (Eriksson et al., 2000). In turn, the knowledge generation and acquisition processes are necessary drivers in the successful internationalization, particularly in resource-constrained SMEs, that traditionally need to cope with scarce knowledge to enter foreign markets (Johanson and Vahlne, 1977, 2009; Autio et al., 2000). Internationalization has been described also as a knowledge-based process, since starting to operate in foreign markets represents a form of innovation (Bilkey and Tesar, 1977). Knowledge is essential for SMEs that face environmental uncertainties and also need to make decisions on how to enter foreign markets (Liesch and Knight, 1999). In this perspective, knowledge appears as a means to reduce uncertainty (Uit Beijerse, 1999) and knowledge accumulation has been identified as a fundamental element of SMEs' internationalization (Forsgren, 2002; Magni et al., 2021). Therefore, knowledge sharing both based on external or internal sources (Hock-Doepgen et al., 2021) is an important tool to deal with novelty, uncertainty and difference, brought by international markets and international customers (Degbey, W. Y., & Pelto, E. 2021), and to assure export performance (Gnizy et al. 2017).

Therefore, the following hypothesis is proposed:

H5: Knowledge sharing positively impacts export performance

Technological capabilities and export performance

The importance of technological resources has been linked to business performance and has been studied by several authors who find positive relationship between these variables

(Camisón and Villar-López, 2014; Deligianni, et al., 2019). Overall, the studies examine export performance via export intensity (i.e. sales from foreign markets as opposed to domestic ones) and emphasize the role of microeconomic characteristics, namely, technological capabilities (Krammer et al., 2018).

Technology profiles or business characteristics related to a company's innovation and research and development (R&D) activities, which are considered as companies' internal factors by international business scholars, are increasingly recognized as critical in determining a company's success in the export market (Yeon et al., 2020). Moreover, scholars from this stream have also successfully verified the impact of technological factors on export performance (Guan & Ma, 2003; Foltean et al., 2019; Davcik. Et al., 2021).

Various studies have uncovered the effect of technology-related variables on SME export performance, including technological innovation (Azar & Ciabuschi, 2017), investment in R&D (Lefebvre et al., 2022), technological learning (Zahra et al., 2022), and technological competence (Knight & Cavusgil, 2004). Advanced and new technology learning from foreign countries also correlates significantly with export performance (Zhou et al., 2007). Investment in technological development can reduce costs and help differentiate products and services from the competition through innovative designs and functions (Kotabe et al., 2002) Adopting cutting-edge technology can improve quality and efficiency in product operation, benefiting export performance of SMEs. Along these lines, we argue that the technological capability could be associated with a firm's export performance (Jin & Cho, 2018; Wu et al., 2022).

H6: Technological capabilities positively impact Export Performance

Although the literature indicates that the direct relationship between alliance management capabilities and export performance is unexplored (Nakos et al., 2019; Chung, & Ho, 2021), this relationship is expected to be rather indirect (Salazar et al., 2016). In addition to obtaining consistency in this relationship, we reinforce the contribution of knowledge sharing (Abbas et al., 2019; Hanifah et al., 2021) and technological capabilities (Bianchi et al., 2017; Jin, & Cho 2018), to improve the comprehension of the boundaries of this relationship, introducing their mediating effects. Knowledge sharing and technological capabilities (Zhang et al., 2018) are influenced by alliance management capabilities, and have a significant impact on export performance (Secundo et al., 2019;

Li et al., 2019). This mediation effect is reinforced by the investigations from (Dubey et al., 2021) and (Yu et al., 2019) that show the mediating role of these variables.

Therefore, we propose the following mediating hypotheses:

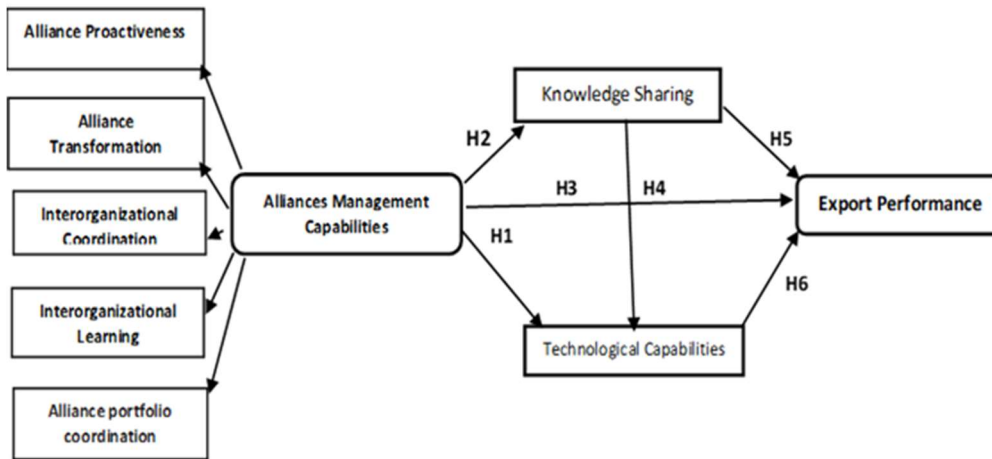
H7a: technological capabilities mediate the relationship between alliance management capabilities and export performance

H7b: Knowledge sharing mediates the relationship between alliance management capabilities and export performance

3.5 The moderating role of Ambidexterity

For firms existing and new knowledge are strategic resources for competitive advantage (Grant, 1996). Exploitation is based on existing knowledge, while exploration is based on new knowledge (Kang & Snell, 2009). In general, the simultaneous use of exploitation and exploration, defined as ambidexterity, has been considered a precursor of short and long-term corporate performance. Likewise, exploration activities may help to continuously renew and expand the knowledge base, but without exploitation that knowledge may not be fully used. Thus, the two kinds of innovation are mutually reinforcing (Andriopoulos and Lewis, 2009; Pertusa-Ortega and Molina-Azorín, 2018) and, therefore, may be beneficial for business performance. Companies that perform better in both capabilities, i.e. are more ambidextrous, have an internal culture that is always seeking new knowledge (Lei et al., 2019), take more advantage of new knowledge (Im et al., 2016), and are more willing to perform better (Weerawardena, et al., 2019) and increase their export performance (França,& Rua, 2018). Consequently, ambidexterity might create a specific context, an organizational environment capable of boosting the outcomes of the strategic alliances, in the process for improving technology and exports (See Figure 1).

Figure 1 The Conceptual Model



3. Methodology

Sample and data collection

The present study had as its population the Portuguese industrial companies (SMEs), with the objective of analyzing the effect of alliance management capabilities on the company's export performance. To test the proposed research model and the research hypotheses, the data was collected through a structured questionnaire from SME business associations. Data collection used a snowball approach: each of the initial 20 respondents were asked to identify and contact 5 additional respondents to answer our questionnaire. A total of 262 questionnaires were collected from Portuguese SMEs by a key informant from the board of directors. Of these, 26.9% were companies with fewer than 9 employees, 34.8% employ 10 to 49 workers, 22.4% 50 to 249, and 15.9% more than 249 employees.

The distribution of respondents in terms of the lifespan was as follows; 23, 4% were under 6 years old, 19.4% between 7 and 12 years, 31.8% 13 to 20 years and 23.4% were over 21 years old. The respondents were chosen from different areas in the country and a range of industries. Finally, respondents were distributed, in percentual terms, by CEOs (14.14%), CFOs (14.4%), Marketing Directors (10.9%), Commercial Directors (19.4%), Technical Officers (4.0%), General Managers (11.9%) and Administrative Staff/ Others (24.9%).

4. Measurement

To operationalize the variables, a literature review on the subject matter was previously conducted. The instruments were selected and the scales used in pre-existing studies were adapted, by changing and adjusting the vocabulary so that the questions were more perceptible to Portuguese respondents.

Table 2
Standardized estimates of the structural model.

Measures	Factor
Knowledge Sharing by Wiklund and Shepherd (2003), based on Gupta and Govindarajan (2000).	
7. Staff with a positive commitment to the company's development	0.755
8. Technical expertise	0.728
9. Expertise regarding development of products or services	0.796
10. Highly productive staff	0.745
11. Expertise in marketing	0.704
12. Special expertise in management	0.738
7. Innovative markets	0.839
8. Staff educated in delivering higher customer service	0.805
Export Performance By Cadogan et al., (2009)	
Export Market Responsiveness	
1. Our export business strategies are driven by our beliefs about how we can create greater value for export customers	0.799
2. Our export strategy for competitive advantage is based on our understanding of export customer needs	0.766
3. Our export business objectives are driven primarily by customer satisfaction	0.855
4. We give close attention to after-sales service in our export markets	0.809
Alliances Management Capabilities by Schilke (2014).	
Interorganizational coordination	
2. Our activities with R&D alliance partners are well coordinated	0.841
5. We ensure that our work tasks fit perfectly into those of our R&D alliance partners	0.915
6. We ensure that our work is synchronized with the work of our R&D alliance partners	0.934
7. There is a great deal of interaction with our R&D alliance partners on most decisions	0.713

Interorganizational learning

- | | |
|--|-------|
| 1. We have the capability to learn from our R&D alliance partners | 0.434 |
| 2. We have the managerial competence to absorb new knowledge from our R&D alliance partners | 0.911 |
| 3. We have adequate routines to analyze the information obtained from our R&D alliance partners | 0.956 |
| 4. We can successfully incorporate in our existing knowledge new information acquired from our R&D alliance partners | 0.897 |

Alliance proactiveness

- | | |
|--|-------|
| 5. We strive to preempt our competitiveness by entering into R&D alliance opportunities | 0.892 |
| 6. We often take the initiative to approach companies with R&D alliance proposals | 0.927 |
| 7. Compared to our competitors, we are far more proactive and responsive in finding and “going after” R&D partnerships | 0.932 |
| 8. We actively monitor our environment to identify R&D partnership opportunities | 0.904 |

Alliance transformation

- | | |
|--|-------|
| 5. We are willing to put aside contractual terms to improve the outcome of our R&D alliance | 0.818 |
| 6. When an unexpected situation arises, we would rather modify an R&D alliance agreement than insist on the original terms | 0.822 |
| 7. Flexibility, in response to a request for change, is characteristic of our R&D alliance management process | 0.822 |

Alliance portfolio coordination

- | | |
|--|-------|
| 5. We ensure appropriate coordination of the activities of our different R&D alliances | 0.798 |
| 6. We determine synergy areas in our R&D alliance portfolio | 0.832 |
| 7. We ensure that interdependencies between our R&D alliances are identified | 0.770 |
| 8. We determine if there are overlaps between our different R&D alliances | 0.680 |

Technological Capabilities by Zhou and Wu (2010).

- | | |
|--|-------|
| 3. Acquiring important technological information | 0.790 |
| 4. Identifying new technological opportunities | 0.680 |
| 5. Responding to technological changes | 0.772 |
| 6. Mastering state-of-art technologies | 0.830 |
| 7. Developing a series of innovations constantly | 0.798 |

Ambidexterity

Six items asked for exploratory orientation, and a further six asked for exploitative orientation. In this research, we considered a cut-off point in ambidexterity based on the ability to concentrate on both capabilities, inspired by Lubatkin et al. (2006). Consequently, we divided our sample into two groups: higher ambidexterity for those companies computing above the average in both capabilities, and lower ambidexterity for those companies computing at least in one of these capabilities below the average.

Measurement model

All items were measured on a seven-point Likert scale (1=strongly disagree to 7=strongly agree). Confirmatory factor analysis was used to assess the psychometric properties of the scales and the measurement model adjustment, using AMOS Version 21.0. The end model shows a good adjustment (IFI=0,927; TLI=0,921; CFI=0,927; RMSEA=0,058; CMIN/DF=1,871).

Composite reliability (CR) and the average variance extracted (AVE) were computed. All the scales showed values above 0.8 for CR and above 0.7 for AVE, which are in line with the recommendations (Hair et al. 2006). Discriminant validity is evidenced by the fact that all correlations between the constructs are significantly smaller than 1 and the squared correlations calculated for each pair of constructs is always smaller than the variance extracted for corresponding constructs (Shiu et al., 2011), thereby confirming the discriminant validity.

Table 3 - Square Correlations, Cronbach's Alpha Composite reliability and Variance extracted

Construct	X1	X2	X3	X4	CR	AVE
Export Performance	0,92				0,92	0,74
Technological capabilities	0,38	0,95			0,94	0,77
Knowledge Sharing	0,22	0,30	0,93		0,92	0,58
Alliance Management Capabilities	0,27	0,30	0,22	0,93	0,95	0,80

Diagonal in bold - Cronbach's Alpha; CR - Composite Reliability; AVE - Average Variance Extracted

Common Method Bias

Based on the suggestions by Podsakoff (1986), a Harman's single factor test and a common latent factor (CLF) analysis were performed to capture the common variance for all observed variables in the model. Harman's test showed that any factor could explain more than 23% of the variance and there were 11 factors with eigenvalues greater than 1, explaining 73% of the total variance. A confirmatory factor analysis was conducted restricting all items of the model to load on a common single factor (Podsakoff, 2003). The resulting adjustment indices show the model did not provide a good adjustment for the data: CMIN/DF= 6.603; IFI=0.8676; TLI=0.8665, CFI=0.8676, RMSEA=0.178.

5.Results and Discussion

Amos 21.0 was used to perform CFA and SEM to test the proposed hypotheses. The end model shows a good adjustment (IFI=0,927; TLI=0,921; CFI=0.927; RMSEA=0,058; CMIN/DF=1,871). A multi-group analysis was performed to test the moderation effects of Ambidexterity, considering two groups: the lower ambidextrous group (balancing exploration and exploitation), with 118 respondents; and the higher ambidexterity group with 144 respondents. A chi square test was performed to compare the two groups and the results show a significant difference between them. The differences between the unconstrained model (chi square = 584.518; D.F. = 254) and the fully constrained model (chi square =620.827 D.F. = 273) show that the models are different (chi square = 36.309; D.F. = 19; $P \leq 0.05$; CV = 38.582) and that the moderation effects are significant. Table 4 highlights the results of the structural model estimation. The adjustment of the model is good (Anderson & Gerbing, 1988).

Table 4. Estimation of the Structural Model Results

Hypothesis	Relationship	GLOBAL (=387)			High Ambi (n=203)			Lower Ambi (n=185)			Supported/ Not Supported
		SRW	C.R.	P	SRW	C.R.	P	SRW	C.R.	P	
H1	Techonological Capabilities ← Alliance M Capabili	.410	5.139	***	.338	3.589	***	.216	2.118	***	Supported
H2	Knowledge Sharing ← Alliance M Capabili	.469	5.811	***	.320	3.026	***	.216	1.898	***	Supported
H3	Export Performance ← Alliance M Capabili	.215	1.756	***	.158	1.568	.060	.029	.297	.380	Supported
H4	Technological Capabilities ← Knowledge Sharing	.308	6.236	***	.316	3.190	***	.482	4.043	***	Supported
H5	Export Performance ← Knowledge Sharing	.151	3.551	***	.010	.094	.460	.056	.453	.325	Supported
H6	Export Performance ← Technological Capabilities	.424	1.916	***	.308	2.777	***	.514	3.940	***	Supported
H7	AMC – KS/TC – Export Performance:			0,306 [0.193, 0.419];			at 95% bootstrap confidence interval				

The Alliance Management Capability influences technological capabilities significantly, thus supporting H1 ($r=0.410$; $P=***$). These results are in line with prior literature showing that alliance management capabilities are new ways for companies to increase and expand their human resources, capitals, market shares and their technological capacities (Cabello-Medina et al., 2020). An alliance management capability is based on the collaboration between partner companies to share market knowledge, technological

capabilities, and resources to gain competitive advantage. Alliance management capabilities are not established for fixing corporate deficiencies. They seek rather to strengthen organizational processes and technological capabilities (O'Dwyer et al., 2011; Belderbos et al., 2018). Technological capability is crucial for company internationalization. It fosters entrance and consolidation in external markets (Haeussler, Patzelt & Zahra, 2012), helps improve the level of international competitiveness, encourages the entrance of foreign investors, and drives exports (Lall, 1992) the launch of new products (Hsieh & Tsai, 2007) and profitability. Alliance management capabilities are understood as an antecedent of technological capability (Tseng & Chen, 2014; Martínez-Noya & Narula 2018), which our results support.

H2 is supported as well ($r = 0.469$; $P = ***$), as alliance management capability has a positive impact on knowledge sharing. The strategic alliances are one form of structure that provides the necessary context for significant knowledge sharing (Matsuo & Easterby-Smith, 2008). This result is in line with of the knowledge accessing theory of strategic alliances (Khan & Khan, 2019) that suggests that proactive firms seek valuable knowledge accessing opportunities from their alliance partners and take preemptive actions to seize perceived learning opportunities. The combination of proactiveness and high willingness to take risks makes partner firms more prone to taking advantage of emerging entrepreneurial opportunities and engaging in joint learning (Jiang, et al., 2016), thus providing the necessary conditions for knowledge sharing. In strategic alliances, knowledge sharing acts in 2 levels, that appear to work and support the proposed hypothesis: acquiring and sharing knowledge among alliance partners and disseminating it internally to produce new capabilities (Zhang et al., 2010; Kim, & Shim 2018).

H3 is supported, as alliance management capability has a positive impact on export performance ($r = 0.215$; $P = ***$). The impact on export performance is an important outcome of strategic alliances (Knight and Cavusgil, 2004), and is independent of the capabilities of the company. Therefore, when we talk at the business level, one of the most significant outcomes of a strategic alliance might be the sharing of knowledge about international markets and even the sharing of markets, distribution channels, agents, among others (Jalali, 2017). In this sense, SMEs require different sets of skills and knowledge when competing in international markets and, accordingly, various capabilities related to marketing, technology, operations, etc. may be needed (Day, 1994; Zhou & Wu, 2010; Acikdilli et al., 2020) and provided by the partners of an alliance.

H4 is supported ($r=0.308$; $P=***$), and knowledge sharing has a positive impact on technological capabilities. In strategic alliances, inter-partner knowledge sharing is the process by which a company in the alliance makes knowledge available to the alliance and is an effective way for partner firms to extend their knowledge bases and develop new knowledge and new technologies in a relatively cost-effective manner. Therefore, Zhang et al. (2010) argue that knowledge acquisition facilitates knowledge creation opportunities and technological development. Knowledge sharing is the link that helps companies take advantage of their strategic alliances and convert them into new technological advancements (Spieth et al., 2021).

H5 is supported, as knowledge sharing has a positive impact on export performance ($r=0.151$; $P=***$). The impact of knowledge sharing on export performance has attracted some attention (Ibrahim & Ogunyemi, 2012). According to Wu et al. (2017), knowledge sharing plays a vital role for overcoming many difficulties and enhancing the competitiveness of exporting SMEs. Better business networks and the cooperative activities that flow from them could help expand the pool of inter-firm knowledge sharing activities, improving business and marketing capabilities and, therefore, export performance (Dyer et al., 2018). Partnerships and knowledge sharing may be crucial for succeeding in foreign markets, especially among SMEs from transition economies (Petrov et al., 2020).

Technological capabilities impact export performance positively, thus supporting H6 ($r=0.424$; $P=***$). Several studies have looked into the relationship between technology and export performance (Azar and Ciabuschi, 2017). Apparently, the adoption of advanced technologies, offering innovative and differentiated solutions for specific markets, are important drivers of export performance (Kotabe et al., 2002). Empirical evidence suggests that, in general, firms undertake all forms of technological and non-technological approaches to improve performance in competitive international markets (Azar & Ciabuschi, 2017). Our results show that SMEs from a transition economy present the same behavior and the same results (Krammer et al., 2018), hereby lending additional support to this effect.

That is, the attributes of context influence export performance through the development of ambidexterity. When ambidexterity has not been developed (that is, when an organization has not developed the capacities for alignment and adaptability simultaneously), the context characteristics, may or may not influence export

performance. In this sense, the moderating effect of contextual ambidexterity also occurs because the attributes of context can themselves create and amplify internal tensions, if they do not contribute to the capacity to simultaneously achieve alignment and adaptability.

Moderation

Finally, we argue that contextual ambidexterity moderates the proposed relationships due to the presence of high order capabilities (Guo et al., 2020) or, in its absence, forcing them to take better advantage of the learning and knowledge acquired and shared (Zhang et al., 2022). High ambidextrous companies seem to take better advantage of alliance management capabilities. Ambidextrous SMEs are enterprises that are always looking for new knowledge: companies show ambidexterity when their managers aim simultaneously to improve their current operations and to expand them by intensively sharing information and knowledge (Chung & Chung, 2018), implementing breakthrough new technologies (De Luca & Atuahene-Gima 2007; Gibson & Birkinshaw 2004), and succeeding in new markets (Jalali, 2017).

Knowledge sharing and technological capabilities seem to be more impactful on low ambidextrous companies, perhaps because they need more new learning, new knowledge and new technologies (Hughes et al., 2020) and when they are able to share them, their outcomes increase rapidly. Therefore, knowledge sharing play a crucial role in creating ambidextrous behavior, fostering specific technologies and innovation (Alcalde-Heras et al., 2018) and succeeding in export markets (Abazeed 2020). Perhaps knowledge sharing might help overcome the difficulties due to the lack of such capabilities..

Mediation analysis

Alliance management capabilities have a significant positive direct and indirect effect on export performance both through knowledge sharing and technological capabilities. The effects of alliance management capabilities on outcomes like performance are usually suggested to be rather indirect (Russo& Cesarani, 2017). Moreover, when talking about foreign markets and export performance, the need of knowledge, information and capabilities is even greater, especially when talking about SMEs (Jalali, 2017).), and our results support and reinforce these propositions. The indirect effects are even greater than the direct ones, showing the effects of knowledge and technology that might be crucial on export markets (Hasaballah et al., 2019; Scuotto et al., 2020). Alliances may help

companies bridging the lack of resources (Bianchi et al., 2017) and reach new levels of knowledge and technology, through the sharing between alliance members, and reinforcing the internal mechanisms of knowledge dissemination (Yu et al., 2019).

6. Theoretical Implications

The findings of our study contribute to the extant body of work on SMEs collaboration by demonstrating that the capacity of SME's units to govern exchange processes with industry partners does matter, as it increases the success of technology and knowledge transfer, transformed into export performance. Therefore, this research provides 4 main contributions: 1) presenting the influence of alliance management capabilities on export performance; 2) researching how knowledge sharing mediates the relationship with technological capabilities; 3) showing the combined effects of knowledge sharing and technological capabilities, linking alliance management capabilities and export performance; 4) introducing the moderating role of ambidexterity in the proposed relationships. Our research thus responds to recent research that advocates revision of the traditional model of the technological capabilities of SMEs and knowledge sharing and that emphasizes the need for developing alternative perspectives on technology transfer to better capture its complex and multifaceted nature (Bradley et al. 2013; Civera, et al., 2020). Our results highlight the role of alliance management capabilities: they play a catalyst role in the relationship between intangible resources like alliance management and export performance, (Yang et al., 2019).

7. Managerial implications

The findings also present important implications for managerial practice by explaining that collaborative knowledge activities, knowledge sharing, and collaborative technological capabilities interact, with each other, to affect the export performance of companies. First, the findings suggest that businesses should consider the idea of a portfolio of interfirm arrangements when implementing their collaborative alliances with partner companies in a supply chain network in order to be effective in developing new technologies and enter into new markets. This study observed that activities conducted in collaborative alliances with different supply chain partners contribute to the export performance of companies.

Insights from our study are particularly relevant for firms in fast growing emerging markets. Many SMEs find the local environment in emerging economies challenging to

navigate in. They may believe that knowledge sharing, and technology ought to provide them with competitive advantages, as mainstream international business theories suggest (Dunning, 1997). Our results suggest that technology and knowledge-based advantages may be boosted when combined with alliance management capabilities, to be exploited successfully in external markets. Given that a firm is a collection of resources to maximize returns (Fahy, 2000), alliance management capabilities provide a mechanism through which SMEs can access required resources to grow profitably in external markets (Ireland et al., 2002). The interaction with the external environment through collaborations, will enable firms to create, develop and sustain inter-organizational relationships, which in turn may facilitate the finding of solutions and ideas that they would not find by themselves (Erfors, 2004). Firms that adopt this approach must implement new organizational mechanisms and strengthen the capacity not only to identify and assimilate new external knowledge, but also to develop the capabilities to convert knowledge acquired from the outside into action within the organization (Ardito & Petruzzelli, 2017). The key to effective use of knowledge in technology is that knowledge has to be shared across functional or organizational boundaries (Gibbons, 1994).

8. Limitations and future research

This study presents several limitations. The sample is not random and comes from a specific, but relevant, geographical area, which might limit its ability to generalize conclusions. At the same time, we used a cross-sectional approach, which presents limitations in its ability to identify strict causality between variables. Comparing results from companies in transition and developed economies is relevant to better understand their behavior. At the same time, the introduction of entrepreneurial orientation both as a moderator and a driver might provide additional insight on how to improve technology and export performance.

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GENERAL CONCLUSIONS, CONTRIBUTIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE INVESTIGATIONS

Our investigation had as main objective the investigation of the impact of dynamic capabilities on the competitiveness of Portuguese SMEs, which revealed the evaluation of two corollaries of research that are still incipient and controversial; the first is related to the direct or indirect impact of dynamic capabilities on competitiveness and competitive advantage and the second, using the view of March (1997), in which exploration and exploitation capabilities are considered high-order dynamic capabilities. This investigation also introduces the role of strategic alliances in dynamic capabilities, considering the influence partnerships may have on the development of these capabilities. We used two samples of Portuguese SME's based on two structured questionnaires: 387 respondents answered the first and 287 respondents answered the second. Methodologically, we used structural equation modeling to test the proposed research models and respective hypotheses. The final results come from the development of 5 complementary and incremental investigations, expressed in the 5 papers presented, that have already been submitted and some of them published in peer reviewed indexed journals.

The main results of our investigation are based, firstly, on the controversy in the literature, in proving that there is an impact, not only indirect, but also direct between dynamic capabilities and competitive advantage. Second, dynamic capabilities at the high order level, which are still little explored, are considered exploitative and exploitative capabilities. In fact, this premise constitutes the core and the main upgrade in literature. Third, we found that strategic alliances have a significant impact on dynamic capabilities and that relational strategies may help in the process of strengthening competitiveness.

Thus, our findings support the core principle that firm's capabilities should be examined in the context of their relevancy to the firm's competitive advantage, following the performance. Before we dive into explaining our findings, we should address the issue of competitive advantage. This will enable a better understanding of the results. Competitive advantage is based on bundles of capabilities facilitating firms' performance. Although this investigation explored the resource foundations of exploitation and exploration

capabilities, its findings are linked to the resources and capabilities examined., namely, marketing, innovation and managerial capabilities.

One of the first objectives were to investigate how DC use their management and marketing expertise to impact favorably on competitiveness and performance. Resource-based theory explains performance results from the interaction between a firm's knowledge resources and capabilities (Morgan, 2009). Therefore, we traced the chain of effects, showing how DC are transformed into competitiveness and performance (Helfat, 2007). The results show that DC have an indirect effect on performance and competitiveness, via managerial and marketing capabilities. Apparently, the effects deployed by managerial capabilities may reinforce the outcomes, via marketing capabilities (Sousa and Tan, 2015), helping companies be more competitive and perform better. Marketing capabilities exert a significant influence both on competitiveness and performance while management capabilities may reinforce the effects of DC on marketing capabilities. At the same time, EO creates the context or boundary conditions where exploitation and exploration give birth to new capabilities and skills, thus moderating the proposed relationships. Exploration leads to better results in less entrepreneurial environments while exploitation leads to better results when there is a greater EO. It seems that exploration ignites companies' capabilities.

The assessment of the impacts of organisational culture (Market Orientation and Learning Orientation) on competitive advantage, through the effects of organisational capabilities (managerial and marketing capabilities, were also an objective of this investigation. The moderating role of Ambidexterity was tested, therefore, to provide a specific context where these relationships could develop and produce their effects. The results show that market orientation and learning orientation have an indirect effect on performance and on competitiveness, via dynamic capabilities. These capabilities act like a tool from organisational culture to help companies be more competitive and perform better. Ambidexterity also exerts a strong and significant moderation influence on the relationships with competitiveness and performance and boost the impacts of market and learning orientation on managerial and marketing capabilities.

A third set of objectives was to evaluate the impacts of DCs, exploitation and exploration on competitive advantage and performance, through the effects of creativity and IC. The moderating role of EO was tested, introducing a cultural environment where these relationships take place. Knowing that past research offers inconclusive results about the

impacts of DCs on competitiveness and performance, which may be indirect, this study highlights the distinct direct and mediating impact through the effects of creativity and IC, on competitiveness and performance.

The importance of alliance management capabilities, which play a catalyst role in the relationship between intangible resources and DCS and export performance, contributing to filling the gaps identified by Papastamatelou et al. (2016) and Yang et al., (2019), were part of the last group of goals. The results show that strategic alliances have an indirect effect on innovation and new product development, through the effects of exploration and exploitation. At the same time, so far, investigations like the one from Rothaermel and Deeds (2004) on the relationship between alliance management capability and firm export performance has so far been inconclusive. Our investigation, therefore, shows the role of strategic alliances as a critical capability of SME's, explaining its implications for export performance, based on cooperation and knowledge sharing, and the effects they may have on technology.

Theoretical Contributions

This investigation presents several different contributions. The results from the 5 partial models tested, bring theoretical implications and look forward to uncover new investigation opportunities.

This investigation helps to fill the gap in the literature on the relationships between DC and competitiveness and hence performance. The integration of the management and marketing capabilities in a context of uncertainty and environmental turbulence, leads to a greater performance, according to Davcik et al., (2021); Reimann, et al., (2021) and Martin et al., (2020). Therefore, results show the chain of effects starting on DCs, leading to a superior performance, through the effects of first order capabilities, like marketing and managerial capabilities. A supportive culture based on DCs, may improve the basic capabilities of organizations and increase their performance.

This investigation also uncovers the chain of effects between market and learning orientation and competitiveness, through the effects of the managerial and marketing capabilities. The combined effects of learning and marketing orientation on the low order capabilities give an important impulse on organizational competitiveness. Finally, it introduces the moderating effects of ambidexterity, investigating the moderating role it might exert (Acquaah and Agyapong, 2015; Heirati, and O'Cass, 2016; Lindgreen and Di

Benedetto, 2018). According to Song et al. (2007), Lee and Klassen (2016) and Jalali et al. (2019) the DCs are one of the main drivers of a sustainable competitive advantage. Marketing is, therefore, the predominant source of knowledge for the learning organization. Therefore, market orientation, learning orientation and the culture of the organization affect indirectly the performance of the organization through marketing and managerial capabilities. Obviously marketing and managerial capabilities deal with introducing new policies, procedures, technical improvements, technical changes, creative ideas, new products and services to gain a sustainable competitive advantage. There is a need to integrate the resources to implement market and learning orientation, to strengthen their first order capabilities and to achieve sustainable competitive advantage and superior organizational performance

At the same time, we focused on the dynamic capabilities as exploration and exploitation in the vision of March (1997) as several studies highlight their significance (Centobelli et al., 2019; Mikalef et al., 2019). Our investigation provides results to the largely unexplored research streams of dynamic capabilities, exploration and exploitation, and their influence on the competitive advantage of firms (Yalcinkaya et al., 2007; Yuan et al., 2021). It has further analyzed how the established exploitation-exploration model is influenced by a firms' strategic agility. The combination with exploitation as an innovation strategy in order to increase the competitive advantage of a firm is a unique insight into how firms can strategically position themselves to attain a competitive advantage. Our study therefore contributes to the literature on firms' strategic orientations and ambidexterity theory (e.g., O'Reilly & Tushman, 2013) by providing an extended model for the context of the Portuguese SME's. Furthermore, we contribute to the literature on dynamic capabilities as exploration and exploitation capabilities (e.g., Teece 2018) by demonstrating that strategy will be particularly beneficial for firms that follow an exploitation orientation. The results show a significant positive effect of exploration orientation on the competitive advantage of a firm. Our result supports previous research that show positive effects of exploration orientation such as innovation success (Matzler et al., 2013; Wang & Dass, 2017), the innovativeness of new products (Molina-Castillo et al., 2011; Randhawa et al., 2021) as well as the acquisition of valuable information and knowledge (Lisboa et al., 2011). However, our study strengthens the argument that exploitation and exploration even increase the competitive advantage of a firm with these new links established. It is indeed the case of SME's that have the potential to position

themselves ahead of their competition with superior new technological knowledge, innovative products and services, entering into new market segments as well as new ways to acquire novel customers, and increase satisfaction of existing ones (Sirén et al., 2012), even if exploitation and exploration-oriented activities take considerable amounts of time (Lin & Si, 2019).

It is, therefore, an important item on the research agenda to focus on decisive factors, and specifically on those conditions of competitiveness and firm's performance, that allow us to understand how and why some firms can renew themselves regularly, over time, through new growth paths. With this study, in line with Burt (2001), we theoretically and empirically researched the network forms of innovation and contributed to show how the generation and development of DCs leads firms' creativity and innovation moderated by EO. In this line, we highlighted the important role of DCs as drivers of creativity-innovation, towards a higher competitiveness. With this study, we responded to the demands of Wales et al. (2013) on the need to provide a detailed analysis of the main moderation of EO, linking three theoretical approaches, namely creativity and innovation capabilities, EO, and DCs, that represent a growing interest in the last two decades in management literature.

Finally, the last two investigations envision a greater improvement of theoretical approaches on strategic alliances between firms and DC. Through the results achieved, we concluded that alliances could foster a coordination and integration of internal and external processes of the firm, positively increasing the value of partner companies. This can encourage the reconfiguration of existing resources and capabilities. These reconfigurations can lead to deliberate evolutionary adaptations in these firms, which will build on relational DCs. The theoretical model tested in this research provided interesting results showing the impact of strategic alliances coordination on DCs. We consolidated the assumption that pointed to resources, namely knowledge, as an important antecedent of DC, as they are a key element for understanding the environment and proposing creative solutions to problems resulting from changes in the market (Kurtmollaiev, 2020; Teece et al., 1997). This result reinforces past studies that tested this relationship in different contexts and countries as, for example, the research developed by Wu (2006) with Taiwanese information technology companies and Arend (2014) with US SMEs. The impact of strategic alliances on export performance via technology and knowledge sharing brings new insights on how DCs operate. These impacts on DCs are important in

promoting new ideas (Schilke et al., 2018), stimulating sensing, seizing and transforming capabilities (Teece, 2007). These findings reinforce the importance of establishing partnerships to promote complementary resources and capabilities (Gulati, 1999). Thus, knowledge sharing may be connected to DC because of the shift from implementation stages to opportunity-seeking stages, by the mediation of exploitation and exploration capabilities in ambidextrous firms, as described by Gupta, Smith and Shalley (2006). Therefore, we reinforce the theoretical line that points to DC as a mechanism for generation of competitive advantage and therefore greater profitability (Eisenhardt & Martin, 2000; Teece et al., 1997). These results are important because they consolidate the results found in other DC as exploitation and exploration analyses (Fainshmidt et al., 2016) and explain the conflicting results published in some primary studies. From the mediation analysis perspective, we found full mediation effects of DC (exploration and exploitation capabilities) in the relationships between resources and firm performance and alliances and firm performance.

Practical implications

In terms of managerial implications, our results provide guidance for managers on how to build and leverage dynamic capabilities, which has been strong tool for managers to execute, in order to improve competitive advantage and firm performance. In a rapidly changing business environment, maintaining the status quo is a risk, especially if a firm is pursuing growth or maintaining its advantage. The findings indicate that dynamic capabilities have an impact on competitive advantage and were identified as the key leverage points for driving growth. In order to improve competitive advantage, a better approach is to sense the business environment, seizing the emerging trends, and reconfiguring resources. In other words, once companies are successful in sensing and seizing the right opportunities, they are on the right track to reconfigure their assets and structures when they need to do business in competitive markets. If managers understand dynamic capabilities, they can generate actionable plans to enhance their competitive advantage

Given that, our findings demonstrate that dynamic capabilities must be leveraged in aid of a good strategy to be effective (Teece, 2014b). At the same time, marketing capabilities, managerial capabilities and innovation capabilities, serve as a significant mediating mechanism between dynamic capabilities and competitiveness and firm performance. Therefore, the key for a good strategy is to use dynamic capabilities to

facilitate innovation activities, especially technological innovation activities. Dynamic capabilities can serve a variety of purposes, including the creation, extension, and modification of resources (Stadler, Helfat, & Verona, 2013). For example, managers should allocate more resources to innovation activities rather than other domains, particularly when they face a situation of very limited resources.

Firms thus need to formulate tactics to stimulate the development of absorptive capacity (e.g. to build up employees' technological, human and relational skills, improve the information transfer by boundary-spanning individuals), which in turn create favorable settings for different innovation activities. Our investigation findings suggest that dynamic capabilities can be leveraged as a source of improved competitive advantage by supporting exploitative and exploratory abilities. Thus, practitioners must simultaneously capitalize on the greater diversity and richness of the information and knowledge available and explore ways to ensure greater adaptability with faster experimentation with the actual offerings (products or services) and improved predictability of the value of new products and services (with reduced variability of the causal factors and associations between them). Senior executives must consider the time-lagged effects of different innovation activities on firm performance. Besides optimizing the strong benefits of dynamic capabilities, senior executives should understand the strategic value of dynamic capabilities and ensure the necessary capabilities renewal that will lead to sustained competitive advantage, avoiding the tendency to reinforce exploitation of existing competencies over exploration of new ones. By discussing the differences in dynamic capabilities for exploitation and exploration, we guide managers in finding the approach best suited for their SME's. Exploration showed that companies had developed a set of new operational service competencies, but exploitation may introduce a certain rigidity in existing processes as well as the management's inability to explore the service opportunities in the value chain of the company, limiting the potential of a right combination of both on what we call ambidexterity. Most of the findings show how exploration offer a detailed account of how the companies were able to form new value constellation, but the search for efficiency always leaves a space for optimizing exploitation. For both approaches, we identified management's ability to develop dynamic capabilities as a key for the service business development, combining them in an ambidextrous company.

Hence, the moderating effects reported in this study imply that managers and entrepreneurs should not pursue creative and innovative activities without taking context or contingency into account; rather, they should be aware of boundary conditions that can constrain the positive impact of DCs on organizational positive outcomes, and on competitiveness and performance. First, managers and entrepreneurs may have a certain degree of control over the moderating variable (EO) discussed in this study. This is possible by managing firm size, locating their R&D units in countries with specific cultural profiles, hiring individuals from countries or ethnic groups with specific cultural traits for their innovation teams, and balancing the mix between process and product innovation performed in their organizations. This implies that the link between creativity and IC can be strategically managed to a certain degree. The findings also present important implications for managerial practice by explaining that collaborative knowledge activities, knowledge sharing, and collaborative technological capabilities interact with each other to affect the export performance of companies. First, the findings suggest that businesses should consider the idea of a portfolio of interfirm arrangements when implementing their collaborative alliances with partner companies in a supply chain network, in order to be effective in developing new products or services. This study observed that activities conducted in collaborative alliances with different supply chain partners contribute to the export performance of companies.

In sum, the dynamic capabilities approach presented in our study can help guide managers on which firm features and capabilities they need to address and develop to implement successful SME's-based strategies.

Limitations and future research

This study presents several limitations. The sample is not random and comes from a specific, but relevant, geographical area, which might limit its ability to generalize conclusions. Therefore, comparing results from companies in transition and developed economies is relevant to better understand their behavior. Considering the entrepreneurial orientation as a contextual variable is more relevant when cultural characteristics are considered. At the same time, a cross-sectional approach was used, which presents limitations in its ability to identify strict causality between variables. In depth interviews and a longitudinal approach would help to better establish a clear causality and the chain of effects, both between variables and across time.

The emergence of the covid crisis introduces a new and relevant context to explore how DCs are helping companies deal with the new business conditions. In such a disruptive environment it will be relevant to clearly investigate the individual impacts of exploration and exploitation, as well as the combination of both in an ambidextrous company. In fact, ambidexterity lacks further conceptualization and measurement, bringing relevant investigation opportunities. Finally, the way DCs are going to open the companies' doors to digital transformation seems to be a major issue on the DCs' field.

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APPENDIX

Questionnaire 1

Appendix: Measurement Scales

Please indicate how much you agree or disagree with each of the following statements. Seven-point scale with 1 (strongly disagree) to 7 (strongly agree) scale anchors

QUESTIONÁRIO DE INVESTIGAÇÃO CIENTÍFICA

Ao preencher o questionário tenha, por favor, em atenção a seguinte informação:

1. A maioria das questões foi concebida de modo a ser respondida através de uma escala que representa a opinião que tem sobre o assunto/objeto de estudo. Apresentam-se em 7 pontos, em que 1 representa a opinião menos concordante e 7 a mais concordante, em relação à afirmação. Assinale a sua resposta com um (X) .
2. É importante que responda a todas as questões, caso contrário, o questionário não poderá ser considerado válido para, o posterior, tratamento estatístico.
3. Não existem respostas corretas nem incorretas. Apenas se pretende obter a sua opinião.
4. As suas respostas são estritamente confidenciais e anónimas.
5. Não pense muito tempo sobre as questões.
6. Se alguma questão for difícil de responder, responda o melhor que puder sem entretanto deixar de responder às questões.

Agradecemos, desde já, a Sua preciosa colaboração que presta à nossa investigação.

Indique o seu grau de concordância/discordância em relação a cada uma das afirmações seguintes, tendo em mente as práticas da sua Empresa.

(Escala: de 1 = «Discordo Totalmente» a 7 = «Concordo Totalmente»)

MARKET ORIENTATION – Orientação para o Mercado		Discordo totalmente						Concordo totalmente
COMPETITOR ORIENTATION – Orientação para o Concorrente		1	2	3	4	5	6	7
1.	Na nossa organização, nós respondemos com celeridade às ações competitivas por parte de concorrentes que nos ameaçam.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Na nossa organização, os nossos vendedores regularmente compartilham internamente informações relacionadas com as ações dos nossos concorrentes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Na nossa organização, a gestão de topo discute regularmente pontos fortes dos concorrentes e conseqüentemente delinea estratégias de ação.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Na nossa organização, segmentamos clientes, aonde consideramos existir uma oportunidade para alcançar vantagem competitiva.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Na nossa organização, nós damos muita atenção ao serviço pós-venda.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Na nossa organização, nós analisamos sistematicamente os produtos/serviços oferecidos pelos nossos concorrentes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CUSTOMER ORIENTATION Orientação para o cliente		Discordo totalmente						Concordo totalmente
		1	2	3	4	5	6	7
1.	Na nossa organização, estamos constantemente a acompanhar o nosso nível de compromisso e orientação no atendimento das necessidades dos clientes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Na nossa organização, os nossos objetivos de negócios são impulsionados e dirigidos principalmente para a satisfação do cliente.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Na nossa organização, a nossa estratégia para a vantagem competitiva é baseada na compreensão das necessidades dos clientes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Na nossa organização, as nossas estratégias de negócio são conduzidas por crenças sobre como podemos criar maior valor para os clientes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Na nossa organização, nós medimos a satisfação do cliente de forma frequente e sistemática.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INTERFUNCTIONAL COORDINATION Coordenação interfuncional		Discordo totalmente						Concordo totalmente
		1	2	3	4	5	6	7
1.	Na nossa organização, todas as funções de negócio (por exemplo, marketing / vendas, I&D, etc.) são integradas no atendimento das necessidades dos nossos mercados-alvo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Na nossa organização, todas as funções de negócio e departamentos respondem às necessidades e pedidos reciprocamente.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.	Na nossa organização, os nossos gestores de topo de cada função visitam regularmente os nossos clientes atuais e potenciais.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5.	Na nossa organização, transmitimos entre nós, livremente informações sobre as nossas experiências com clientes bem ou malsucedidos em todas as funções de negócio.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6.	Na nossa organização, os nossos gestores pensam no modo como todos nós podemos contribuir para a criação de valor para o cliente.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Indique o seu grau de concordância em relação a cada uma das afirmações seguintes, tendo em mente as práticas da sua Empresa.

ENTREPRENEURIAL ORIENTATION – Orientação Empreendedora		Discordo totalmente						Concordo totalmente
		1	2	3	4	5	6	7
1.	Damos ênfase, na nossa organização, à pesquisa e desenvolvimento e à liderança tecnológica.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Normalmente, na nossa organização, Iniciamos ações, às quais outras organizações respondem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Na nossa organização, somos rápidos a introduzir novas técnicas administrativas e operações tecnológicas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Temos, na nossa organização, uma elevada tendência para projetos de alto risco.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Na nossa organização, somos corajosos nos esforços que desenvolvemos para maximizar a probabilidade de oportunidades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Relativamente às afirmações seguintes, por favor, assinalo o seu grau de concordância/discordância tendo em conta as situações que mais se ajustam à realidade da sua empresa.

LEARNING ORIENTATION - ORIENTAÇÃO PARA A APRENDIZAGEM		Discordo totalmente						Concordo totalmente
COMMITMENT TO LEARNING Compromisso com a aprendizagem		1	2	3	4	5	6	7
1.	Na nossa organização, os gestores, em geral, concordam que a capacidade para aprendizagem é o ponto-chave para a sua vantagem competitiva.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Na nossa organização, os nossos valores básicos, incluem a aprendizagem como o elemento fundamental para o aperfeiçoamento das nossas atividades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Na nossa organização, a ideia geral internalizada, é de que os processos de aprendizagem dos nossos funcionários constituem investimento, e não despesa.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.	Na nossa organização, a aprendizagem, é vista como característica chave necessária para garantir a sobrevivência da mesma.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5.	Na nossa organização, a cultura interna, considera o processo de aprendizagem como prioridade.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6.	Na nossa organização, nós sabemos que, parar o processo de aprendizagem, é colocar em risco o seu futuro.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SHARED VISION Visão partilhada		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
7.	Na nossa organização, existe um conceito claro do que a nossa organização é e para onde ela se dirige enquanto organização.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.	Na nossa organização, todos os funcionários estão comprometidos com os objetivos da nossa empresa.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9.	Na nossa organização, os funcionários veem-se como parceiros na definição da estratégia da nossa organização.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10.	Na nossa organização, a alta administração, compartilha a visão que tem para a nossa organização, incluindo com os níveis mais baixos.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11.	Na nossa organização, temos uma visão bem definida para o seu negócio.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OPENMIMDEDNESS Abertura à reflexão crítica		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
12.	Na nossa organização, não receamos em refletir criticamente sobre a forma como fazer negócios.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
13.	Na nossa organização, os administradores esperam que a sua “visão do mundo” seja questionada.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
14.	Na nossa organização, dá-mos uma grande importância à abertura da mente para novas ideias.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
15.	Na nossa organização, os administradores encorajam os funcionários a pensarem de forma incomum.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
16.	Na nossa organização, a ênfase na inovação permanente faz parte da cultura corporativa da empresa.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
17.	Na nossa organização, as ideias originais são internamente altamente valorizadas.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Indique o seu grau de concordância em relação a cada uma das afirmações seguintes, tendo em mente as práticas da sua Empresa.

DYNAMIC CAPABILITIES - CAPACIDADES DINAMICAS		Discordo totalmente	Concordo totalmente
EXPLOITATION CAPABILITY Capacidades explorativas ou de ação		1	7
1.	Na nossa organização, faz-se regularmente, atualização do conhecimento e melhoramento de habilidades para produtos/serviços e tecnologias já familiares	<input type="checkbox"/>	<input type="checkbox"/>

2.	A nossa organização, investiu no reforço de competências de exploração de tecnologias de topo, para melhorar a produtividade das operações de inovações atuais.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.	Na nossa organização, existe um encorajamento/reforço de competências na procura de soluções para os problemas dos clientes que estão próximas de soluções existentes, em vez de procurar soluções completamente novas.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.	Na nossa organização, são atualizadas e melhoradas, as competências e as habilidades no processo de desenvolvimento de serviços, onde a nossa organização já possuía significativa experiência.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5.	Na nossa organização, existe a prática de reforço de conhecimentos e habilidades para projetos que aumentaram a eficiência de atividades de inovação já existentes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
EXPLORATION CAPABILITY Capacidades explorativas ou de execução		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
6.	A nossa organização, adquiriu habilidades e tecnologias de prestação de serviços completamente novas para a nossa empresa	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
7.	A nossa organização, adquiriu habilidades e processos de desenvolvimento de produtos/serviços (como <i>design</i> de produtos/serviços, protótipos de novos produtos, <i>timing</i> para introdução de novos produtos/serviços) e customização de serviços para os mercados locais totalmente novos para a empresa.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.	A nossa organização, adquiriu habilidades de gestão e de organização, totalmente novas, as quais são importantes, para o processo de inovação (como por exemplo prever tecnologias e tendências dos clientes, identificar tecnologias e mercados emergentes, coordenar e integrar I&D, <i>marketing</i> , e administrar o processos de novos serviços).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9.	A nossa organização, aprendeu novas habilidades em áreas como, por exemplo, no financiamento de novas tecnologias, ao incluir os funcionários no processo de I&D, formação e desenvolvimento de I&D na área de engenharia pessoal pela primeira vez.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10.	A nossa organização, investiu e reforçou habilidades e competências de inovação em áreas onde a empresa não tinha experiência prévia.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Indique o seu grau de concordância em relação a cada uma das afirmações seguintes, tendo em mente as práticas da sua Empresa.

MARKETING CAPABILITIES – CAPACIDADES DE MARKETING		Discordo totalmente Concordo totalmente
PRICING Competências de preço		1 2 3 4 5 6 7
1.	A nossa organização recorre ao uso de competências e sistemas de fixação de preços para responder rapidamente a mudanças do mercado.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.	A nossa organização conhece as táticas de preço da concorrência.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

3.	A nossa organização realiza um trabalho efetivo de <i>pricing</i> de produtos/serviços.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.	A nossa organização monitoriza os preços da concorrência e as alterações de preço que praticam.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

SERVICE DEVELOPMENT Desenvolvimento de serviços		Discordo totalmente	Concordo totalmente
		1	2 3 4 5 6 7
5.	A nossa organização tem a capacidade de desenvolver novos serviços.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6.	Na nossa organização desenvolvemos novos serviços através de I&D.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
7.	Na nossa organização fazemos testes de <i>Marketing</i> de novos serviços.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.	A nossa organização apresenta sucesso no lançamento de novos serviços	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9.	Na nossa organização temos a garantia que o desenvolvimento de esforços na criação de novos serviços vão de encontro às necessidades dos nossos clientes.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MARKETING COMMUNICATION Comunicação de Marketing		Discordo totalmente	Concordo totalmente
		1	2 3 4 5 6 7
10.	A nossa organização desenvolve e executa programas de publicidade/comunicação	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11.	A nossa organização possui competências ao nível de imagem de marca e gestão de processos de venda.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
12.	A nossa organização possui competências de promoção e criatividade.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
13.	A nossa organização possui competências de relações públicas.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SELLING Vendas		Discordo totalmente	Concordo totalmente
		1	2 3 4 5 6 7
14.	A nossa organização possui competências ao nível do planeamento e sistemas de controlo de vendas	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
15.	A nossa organização possui competências ao nível das vendas.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
16.	A nossa organização possui uma equipa com competências ao nível das vendas.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
17.	A nossa organização providencia apoio efetivo nas vendas à sua equipa comercial.	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MARKET INFORMATION MANAGEMENT - Gestão da informação do mercado		Discordo totalmente	Concordo totalmente
		1	2 3 4 5 6 7

18.	Na nossa organização efetuamos recolha/coleta de informações sobre os nossos clientes e concorrentes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
19.	Na nossa organização utilizamos habilidades de pesquisa de mercado para desenvolvermos programas de <i>Marketing</i> eficazes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
20.	Na nossa organização fazemos o acompanhamento do cliente quando este o solicita.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
21.	Na nossa organização utilizamos de forma plena informações ao nível de pesquisa de <i>marketing</i> .	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
22.	Na nossa organização analisamos sistematicamente a nossa informação colhida do mercado.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MARKETING IMPLEMENTATION – Implementação de Marketing		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
23.	A nossa organização consegue eficazmente alocar os seus recursos de <i>marketing</i> .	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
24.	A nossa organização é capaz de conceber efetivamente programas de <i>marketing</i> .	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
25.	A nossa organização é capaz de transformar estratégias de <i>marketing</i> em ações.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
26.	A nossa organização, é capaz de executar rapidamente estratégias de <i>marketing</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

MARKETING PLANNING Planeamento de Marketing		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
27.	A nossa organização possui competências ao nível de planeamento de <i>marketing</i> .	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
28.	A nossa organização tem capacidade para segmentar eficazmente o mercado e identificar o público-alvo (<i>target</i>).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
29.	A nossa organização é capaz de desenvolver estratégias criativas de <i>marketing</i> .	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
30.	A nossa organização é rigorosa nos processos de planeamento de <i>marketing</i> .	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
BRANDING Cultura da marca		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
31.	A nossa organização, usa a marca como uma ferramenta operacional.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
32.	A nossa organização, é capaz de comunicar um consistente significado para a marca.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
33.	A nossa organização, por regra, trata a marca como um recurso.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
34.	A nossa organização é capaz de conseguir pessoas para suportar a marca.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

MANAGERIAL CAPABILITIES – CAPACIDADES DE GESTÃO		Discordo totalmente							Concordo totalmente
		1	2	3	4	5	6	7	
1.	A cadeia de aprovisionamento é bem controlada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	As estratégias de marketing são rapidamente executadas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.	Existe experiência de gestão operacional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.	Existem as melhores capacidades de gestão	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Considere as seguintes afirmações e por favor, assinale o seu grau de concordância/discordância, tendo em conta a realidade da sua Empresa

INNOVATION CAPABILITIES - CAPACIDADES DE INOVAÇÃO		Discordo totalmente							Concordo totalmente
		1	2	3	4	5	6	7	
1.	. A nossa empresa introduziu um novo produto ou uma nova qualidade de um produto existente;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.	A nossa empresa introduziu um novo método de produção ou modificou um método existente;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.	.A nossa empresa encontrou um novo mercado ou empregou uma nova estratégia de marketing num mercado existente;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.	A nossa empresa encontrou uma nova fonte de fornecimento;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.	A nossa empresa encontrou novas formas de gestão financeira;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.	.A nossa empresa desenvolveu novas estruturas, sistemas e procedimentos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.	A nossa empresa introduziu uma nova cultura, especialmente na introdução de pessoas inovadoras	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8.	A nossa empresa encontrou novas formas de administrar e desenvolver pessoas	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9.	A nossa empresa usou novas formas de gerir o controlo de qualidade e I&D (Investigação e desenvolvimento)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10.	A nossa empresa encontrou novas formas de lidar com os órgãos do governo e outras agências externas	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

INNOVATION CAPABILITIES - CAPACIDADES DE INOVAÇÃO		Discordo totalmente							Concordo totalmente
			1	2	3	4	5	6	7
1.	A nossa empresa é melhor no desenvolvimento de novas ideias para ajudar os clientes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	A nossa empresa é mais capaz de acompanhar rapidamente as novas ofertas para os clientes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	A nossa empresa apresenta melhor capacidade de gerir os processos para manter os custos baixos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	A nossa empresa é a mais capaz de encontrar uma solução global para resolver problemas do cliente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Considere as seguintes afirmações e por favor, assinala o seu grau de concordância/discordância

New Product Development - Desenvolvimento de Novos Produtos		Discordo totalmente							Concordo totalmente
			1	2	3	4	5	6	7
1.	A Produtos superiores, possuem um diferencial ou uma vantagem económica, ou são únicos relativamente a produtos concorrentes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Produtos em que os elementos da entidade comercial - venda, distribuição, produção, etc. – são competentes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Projectos onde o conhecimento técnico e de mercado são adquiridos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Projectos onde a parte técnica, de marketing e as actividades evolutivas (do processo) são empreendidos de forma eficiente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Produtos com entrada em mercados massivos e dinâmicos, com uma elevada mas insatisfeita necessidade desses mesmos produtos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Projectos em alto grau de compatibilidade de recursos entre as necessidades do projecto e a base de recursos da empresa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.	Projectos com os quais a empresa está familiarizada (que não envolvam novas tecnologias, novos mercados, etc)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.	Projectos são derivados do mercado (ideia do produto surgiu a partir do mercado)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Indique o seu grau de concordância/discordância em relação a cada uma das afirmações seguintes, tendo em mente as práticas da sua empresa/organização

New Product Development – Desenvolvimento de Novos Produtos		Discordo totalmente						Concordo totalmente	
<i>Supply chain flexibility</i>			1	2	3	4	5	6	7
Flexibilidade da cadeia de suprimentos									
1.	A nossa empresa obtém a curto prazo da fornecimento de bens e serviços		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	A nossa empresa adapta-se rapidamente às mudanças do cliente		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	A nossa empresa é capaz de reduzir o prazo de fabrico		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	A nossa empresa reduz os tempos do ciclo de desenvolvimento		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	A nossa empresa apresenta capacidades do processo de fabrico		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	A nossa empresa aumenta a capacidade do volume de produção		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	A nossa está preparada pra frequências de introdução de novos produtos		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Internal knowledge transfer</i>		Discordo totalmente						Concordo totalmente	
Transferência interna de conhecimento			1	2	3	4	5	6	7
1.	Na nossa empresa trocamos efetivamente informações relevantes entre departamentos		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Na nossa empresa temos um entendimento comum com outros departamentos sobre a importância das informações existentes		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Na nossa empresa procuramos intensamente o desenvolvimento multifuncional de novos produtos.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>External knowledge transfer</i>		Discordo totalmente						Concordo totalmente	
Transferência Externa de conhecimento			1	2	3	4	5	6	7
1.	Na nossa empresa os fornecedores podem partilhar connosco as suas experiências em novas tecnologias		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Na nossa empresa temos frequentemente reuniões com os fornecedores para desenvolver novos conhecimentos.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.	Na nossa empresa na relação comprador-fornecedor, convertemos o conhecimento técnico do fornecedor em nossos novos produtos e processos	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>Supply complexity</i> <i>Complexidade da oferta</i>		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
1.	Na nossa empresa o número de fornecedores diretos é muito alto	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.	Na nossa empresa os planos de compras de longo prazo da nossa atividade são dificultados pelo alto dinamismo do mercado.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.	Na nossa empresa os nossos fornecedores geralmente não fornecem a tempo ou com a qualidade desejada.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>Product Complexity</i> <i>Complexidade do Produto</i>		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
1.	Na nossa empresa oferecemos aos nossos clientes diversos complementos e a opção de individualização do produto.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.	Na nossa empresa, os nossos produtos consistem num alto número de componentes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.	Na nossa empresa oferecemos frequentemente novas gamas de produtos.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Considere as seguintes afirmações e por favor, assinale o seu grau de concordância/discordância

Creativity - Criatividade		Discordo totalmente	Concordo totalmente					
		1	2	3	4	5	6	7
1.	Temos muitas ideias inovadoras para servir o mercado.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Muitas vezes abordamos os problemas de forma original..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Há sugestões frequentes sobre novas formas de aumentar a qualidade para o mercado.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Desenvolvemos adequadamente planos e calendários para implementar novas ideias para o mercado.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Encontramos soluções criativas para os problemas que temos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Não temos medo de correr riscos nos negócios.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	As pessoas sugerem novas formas de atingir os objectivos organizacionais.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	As pessoas demonstram criatividade na abordagem ao mercado quando surge oportunidade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	As pessoas com frequência sugerem novas formas de actuar no mercado.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.	Promovemos e partilhamos novas ideias sobre o mercado.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11.	As pessoas têm ideias novas para melhorar o desempenho organizacional.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
12.	Temos muitas ideias criativas para aplicar no mercado.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
13.	Procuramos novas tecnologias, processos, técnicas e/ou ideias para novos produtos/ serviços para o mercado.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Relativamente às seguintes afirmações, por favor, assinale o seu grau de concordância/discordância tendo em contas as situações que mais se ajustam à realidade da sua empresa.

Entrepreneurial Orientation . Orientação Empreendedora		Discordo totalmente						Concordo totalmente
		1	2	3	4	5	6	7
1.	Somos pioneiros em acções às quais outras organizações respondem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Somos rápidos a introduzir novas técnicas administrativas e operações tecnológicas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Temos uma elevada tendência para projectos de alto risco.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Somos corajosos nos esforços que desenvolvemos para maximizar a probabilidade de obter novas oportunidades de negócio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Somos corajosos nos nossos esforços para maximizar a probabilidade de novas oportunidades de negócios	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Nas seguintes afirmações, por favor, assinale o seu grau de concordância/discordância

Knowledge Sharing - Partilha do Conhecimento		Discordo totalmente						Concordo totalmente
Em comparação com outras empresas do mesmo sector, a nossa empresa é:		1	2	3	4	5	6	7
1.	Em conhecimentos Técnicos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Em conhecimentos sobre o desenvolvimento de produtos ou serviços.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Em pessoal altamente produtivo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Em competências em Marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Em competências de especialização no atendimento ao cliente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Em competências de especialização de gestão	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.	Uma equipa formada no atendimento superior ao cliente	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8.	Uma equipa capaz de comercializar os produtos/serviços com sucesso	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Considere as seguintes afirmações referentes ao grau de competitividade tendo vista a vantagem competitiva da sua organização. Por favor, assinale o seu grau de concordância/discordância tendo em conta as situações que mais se ajustam à realidade da sua empresa.

COMPETITIVE ADVANTAGE - VANTAGEM COMPETITIVA		Discordo totalmente						Concordo totalmente
		1	2	3	4	5	6	7
1.	A nossa organização ganhou vantagens competitivas estratégicas sobre os nossos concorrentes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	A nossa organização obteve benefícios que nos permitem competir no mercado de forma mais eficaz.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	A nossa organização tem, com sucesso, alcançado resultados estrategicamente importantes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	Na nossa organização, verificamos que a concorrência no mercado onde atuamos é muito forte.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Na nossa organização, verificamos que existem muitas guerras promocionais no mercado onde atuamos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Na nossa organização, verificamos que é fácil igualar a oferta que as empresas concorrentes lançam no mercado.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Na nossa organização, verificamos que a guerra de preços é uma característica deste sector.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Na nossa organização, podemos concorrer prontamente, face a qualquer coisa que um concorrente pode oferecer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Strategic Alliances - Alianças Estratégicas		Discordo totalmente						Concordo totalmente
Interorganizational coordination Coordenação Interorganizacional		1	2	3	4	5	6	7
1.	As atividades das nossas alianças com os parceiros, estão bem coordenadas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	No garantimos que as nossas tarefas de trabalho, se encaixam muito bem com as dos nossos parceiros de alianças	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Nós asseguramos que o nosso trabalho está sincronizado com o trabalho dos nossos parceiros	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.	Na tomada da maioria das decisões, existe uma grande interação com os nossos parceiros de alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>Alliance portfolio coordination</i> Coordenação da carteira de alianças		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
1.	.Na nossa empresa, asseguramos uma coordenação adequada entre as nossas atividades e as diferentes alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.	Conhecemos bem as áreas de sinergias da nossa carteira de alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.	.Asseguramos que interdependências entre as nossas alianças sejam asseguradas	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.	Determinamos se existem sobreposições entre as nossas diferentes alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>Interorganizational learning</i> Aprendizagem Intrerorganizacional		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
1.	A nossa empresa tem capacidade de aprender com os nossos parceiros	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.	A nossa empresa tem a capacidade de gestão para absorver novos conhecimentos adquiridos com os nossos parceiros de alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.	.A nossa empresa tem rotinas adequadas para analisar a informação obtida através dos parceiros de alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.	A nossa empresa consegue integrar com sucesso, o conhecimento já existente, com a informação dos nossos parceiros de alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>Alliance proactiveness</i> <i>Produtividade da Aliança</i>		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
1.	Na nossa empresa fazemos f um esforço para nos anteciparmos, face á concorrência aproveitando as oportunidades de alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.	Na nossa empresa, muitas vezes tomamos a iniciativa de abordar outras empresas com propostas «de alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.	Na nossa empresa em comparação com os nossos concorrentes, somos muito mais pró- activos e receptivos para encontrar e “ ir atrás” de parceiros	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4.	Na nossa empresa monitorizamos activamente o nosso meio ambiente para identificarmos oportunidades de parceiros	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>Alliance transformation</i> <i>Transformação da Aliança</i>		Discordo totalmente Concordo totalmente 1 2 3 4 5 6 7
1.	Na nossa empresa estamos dispostos a deixar de lado termos contratuais para melhorar o resultado com as nossas alianças oportunidades de alianças.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.	Na nossa empresa quando surge uma situação inesperada, preferimos modificar o acordo com a aliança do que manter os termos originais	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

3.	Na nossa empresa flexibilidade, enquanto resposta aos pedidos de mudança, é uma característica no processo de gestão das alianças	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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Como avalia a *Performance* da sua empresa nos 5 últimos anos, relativamente à dos seus principais concorrentes, tendo em conta os seguintes itens:

Como avalia a performance da sua empresa nos 5 últimos anos, relativamente à dos seus principais concorrentes, tendo em conta os seguintes itens?

PERFORMANCE – DESEMPENHO DA EMPRESA		Fracamente								Excelente
		1	2	3	4	5	6	7		
1.	O crescimento da quota de mercado da nossa organização em comparação com os nossos concorrentes é ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2.	A nossa organização, na aquisição de novos clientes em comparação com os nossos concorrentes é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3.	Na nossa organização, o aumento das vendas para os nossos atuais clientes, em comparação, ao dos nossos concorrentes é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4.	A nossa organização, em relação ao crescimento do volume de vendas em comparação ao dos nossos concorrentes é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5.	Na nossa organização o nosso nível de criação de valor nos clientes em comparação ao dos nossos concorrentes é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6.	Na nossa organização, o grau de cumprimento da satisfação das necessidades dos nossos clientes em comparação com o dos nossos concorrentes é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7.	Na nossa organização, o nosso grau de retenção de clientes valorizados, em comparação com o dos nossos concorrentes é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
8.	O lucro da nossa organização em comparação, com os nossos principais concorrentes é ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
9.	O retorno sobre o investimento (ROI) da nossa organização em comparação com a concorrência é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10.	A nossa organização, para atingir os seus objetivos financeiros em comparação com a concorrência é..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
11.	A rentabilidade operacional das vendas (ROS) da nossa organização em comparação com a concorrência é...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Dados sobre a empresa

N.º de empregados _____

Ano de fundação da empresa _____

Numero de marcas representadas _____

Quais? _____

Qual é forma jurídica da sua empresa?

Em nome individual Sociedade por quotas Sociedade Anónima

Outra, qual? _____

Dados Profissionais do respondente:

Idade: _____ Posição hierárquica/cargo na Organização: _____ Tempo de permanência na
Organização _____

Tempo de experiência neste Sector de Actividade: _____ Formação Académica: _____

Formação Especializada no Sector de Actividade _____ Regular? _____ Ocasional? _____

Quais as Entidades Formadoras? _____

A quem pertence a Gestão da Organização? _____

Indique onde está localizada a empresa

Distrito: _____

OBS:

Se desejar receber um relatório/síntese dos resultados desta investigação, indique, por favor, aquando da devolução deste questionário, a morada ou endereço de *email* para onde pretende que seja enviado.

Muito obrigado!

Questionnaire 2

Please indicate how much you agree or disagree with each of the following statements. Seven-point scale with 1 (strongly disagree) to 7 (strongly agree) scale anchors

QUESTIONÁRIO DE INVESTIGAÇÃO CIENTÍFICA

Ao preencher o questionário tenha, por favor, em atenção a seguinte informação:

7. A maioria das questões foi concebida de modo a ser respondida através de uma escala que representa a opinião que tem sobre o assunto/objeto de estudo. Apresentam-se em 7 pontos, em que 1 representa a opinião menos concordante e 7 a mais concordante, em relação à afirmação. Assinale a sua resposta com um (X) .
8. É importante que responda a todas as questões, caso contrário, o questionário não poderá ser considerado válido para, o posterior, tratamento estatístico.
9. Não existem respostas corretas nem incorretas. Apenas se pretende obter a sua opinião.
10. As suas respostas são estritamente confidenciais e anónimas.
11. Não pense muito tempo sobre as questões.
12. Se alguma questão for difícil de responder, responda o melhor que puder sem entretanto deixar de responder às questões.

Agradecemos, desde já, a Sua preciosa colaboração que presta à nossa investigação.

Indique o seu grau de concordância/discordância em relação a cada uma das afirmações seguintes, tendo em mente as práticas da sua Empresa.

(Escala: de 1 = «Discordo Totalmente» a 7 = «Concordo Totalmente

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	As actividades das nossas alianças com os parceiros, estão bem coordenadas.	1	2	3	4	5	6	7
B	Nós garantimos que as nossas tarefas de trabalho, se encaixam muito bem com as dos nossos parceiros de alianças	1	2	3	4	5	6	7
C	Nós asseguramos que nosso trabalho está sincronizado com o trabalho dos nossos parceiros	1	2	3	4	5	6	7
D	Na tomada da maioria das decisões, existe uma grande interação com os nossos parceiros de alianças.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	Na nossa empresa, asseguramos uma coordenação adequada entre as nossas actividades e as diferentes alianças.	1	2	3	4	5	6	7
B	Conhecemos bem as áreas de sinergias da nossa carteira de alianças.	1	2	3	4	5	6	7

C	Asseguramos que as interdependências entre as nossas alianças sejam identificadas.	1	2	3	4	5	6	7
D	Determinamos se existem sobreposições entre as nossas diferentes alianças.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	A nossa empresa tem a capacidade de aprender com os nossos parceiros de alianças	1	2	3	4	5	6	7
B	A nossa empresa tem a capacidade de gestão, para absorver novos conhecimentos adquiridos com os parceiros de alianças.	1	2	3	4	5	6	7
C	A nossa empresa tem rotinas adequadas para analisar a informação obtida através dos parceiros de alianças.	1	2	3	4	5	6	7
D	A nossa empresa consegue integrar, com sucesso, o conhecimento já existente, com a informação obtida através dos nossos parceiros de aliança.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	Na nossa empresa fazemos um esforço para nos anteciparmos, face à concorrência, aproveitando as oportunidades de alianças.	1	2	3	4	5	6	7
B	Na nossa empresa, muitas vezes, tomamos iniciativa de abordar outras empresas, com propostas de alianças.	1	2	3	4	5	6	7
C	Na nossa empresa, em comparação com os nossos concorrentes, somos muito mais pró-activos e receptivos para encontrar e "ir atrás" de parcerias.	1	2	3	4	5	6	7
D	Na nossa empresa monitorizamos ativamente o nosso meio ambiente, para identificar oportunidades de parcerias.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	Na nossa empresa estamos dispostos a deixar de lado termos contractuais para melhorar o resultado com as nossas alianças.	1	2	3	4	5	6	7
B	Na nossa empresa, quando surge uma situação inesperada, preferimos modificar o acordo com a aliança do que manter os termos originais.	1	2	3	4	5	6	7
C	Na nossa empresa a flexibilidade, enquanto resposta aos pedidos de mudança, é uma característica no processo de gestão das alianças.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	As actividades das nossas alianças com os parceiros, estão bem coordenadas.	1	2	3	4	5	6	7
B	Nós garantimos que as nossas tarefas de trabalho, se encaixam muito bem com as dos nossos parceiros de alianças	1	2	3	4	5	6	7
C	Nós asseguramos que nosso trabalho está sincronizado com o trabalho dos nossos parceiros	1	2	3	4	5	6	7
D	Na tomada da maioria das decisões, existe uma grande interação com os nossos parceiros de alianças.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	Na nossa empresa, asseguramos uma coordenação adequada entre as nossas actividades e as diferentes alianças.	1	2	3	4	5	6	7
B	Conhecemos bem as áreas de sinergias da nossa carteira de alianças.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:
No processo de desenvolvimento de novos produtos, até que ponto a sua empresa consegue:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	A nossa empresa atualiza o conhecimento atual de produtos familiares.	1	2	3	4	5	6	7
B	A nossa empresa investe no aproveitamento de tecnologias maduras, que aumentem a produtividade das operações atuais.	1	2	3	4	5	6	7
C	A nossa empresa tem capacidades melhoradas na pesquisa de soluções, para problemas de clientes que sejam próximas de soluções existentes.	1	2	3	4	5	6	7
D	A nossa empresa tem competências atualizadas nos processos de desenvolvimento de produtos, no qual a empresa já possui uma experiência extensa.	1	2	3	4	5	6	7
E	A nossa empresa reforça o conhecimento e a competência para melhorar a eficiência de actividade de inovação existente.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:
Nos processos de desenvolvimento de novos produtos:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	A nossa empresa adquire tecnologias de fabricação e competências completamente novas.	1	2	3	4	5	6	7
B	A nossa empresa desenvolve as capacidades de desenvolvimento e processos inteiramente novos.	1	2	3	4	5	6	7
C	A nossa empresa adquire novas capacidade de gestão organizacionais que são importantes para a inovação.	1	2	3	4	5	6	7
D	A nossa empresa aprende a ter capacidades de financiamento de novas tecnologias e treino de equipa de I&D (Investigação e Desenvolvimento), completamente novas.	1	2	3	4	5	6	7
E	A nossa empresa desenvolve as capacidades de inovação em áreas em que não tem nenhuma experiência.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:
Comparada com os principais concorrentes, a nossa empresa consegue:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	Adquirir importantes informações tecnológicas.	1	2	3	4	5	6	7
B	Identificar novas oportunidades tecnológicas.	1	2	3	4	5	6	7
C	Responder às mudanças tecnológicas.	1	2	3	4	5	6	7
D	Dominar tecnologias de ponta.	1	2	3	4	5	6	7
E	Desenvolver constantemente diversas inovações.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	A nossa empresa introduziu um novo produto ou uma nova qualidade num produto existente.	1	2	3	4	5	6	7
B	A nossa empresa introduziu um novo método de produção ou modificou um método existente.	1	2	3	4	5	6	7
C	A nossa empresa encontrou um novo mercado ou empregou uma nova estratégia de marketing num mercado existente.	1	2	3	4	5	6	7
D	A nossa empresa encontrou uma nova fonte de fornecimento.	1	2	3	4	5	6	7
E	A nossa empresa encontrou novas formas de gestão de finanças.	1	2	3	4	5	6	7
F	A nossa empresa desenvolveu novas estruturas, sistemas ou procedimentos.	1	2	3	4	5	6	7
G	A nossa empresa introduziu uma nova cultura, especialmente na introdução de pessoas inovadoras.	1	2	3	4	5	6	7
H	A nossa empresa encontrou formas de administrar e desenvolver pessoas.	1	2	3	4	5	6	7
I	A nossa empresa usou novas formas de gerir o controlo de qualidade e I&D (Investigação e Desenvolvimento).	1	2	3	4	5	6	7
J	A nossa empresa encontrou novas formas de lidar com os órgãos do governo e outras agências externas.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:
Em comparação com outras empresas do mesmo sector, a nossa empresa é:

		Muito Débil			Não Débil nem Forte			Muito Forte
A	Em termos técnicos.	1	2	3	4	5	6	7
B	Em conhecimentos sobre o desenvolvimento de produtos ou serviços.	1	2	3	4	5	6	7
C	Em pessoal altamente produtivo.	1	2	3	4	5	6	7
D	Em competências de marketing.	1	2	3	4	5	6	7
E	Em competências de experiência no atendimento ao cliente.	1	2	3	4	5	6	7
F	Em competências de especialização em gestão.	1	2	3	4	5	6	7
G	Em competências de experiência nos mercados inovadores.	1	2	3	4	5	6	7
H	Uma equipa formada em oferecer um atendimento superior ao cliente.	1	2	3	4	5	6	7
I	Uma equipa que gosta de contribuir com ideias para novos produtos / serviços.	1	2	3	4	5	6	7
J	Uma equipa capaz de comercializar os produtos / serviços, com sucesso.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	A nossa empresa é muito rápida a desenvolver novos projectos.	1	2	3	4	5	6	7
B	A nossa empresa é muito rápida com novos projetos de produtos e soluções.	1	2	3	4	5	6	7
C	A nossa empresa é rápida, em relação à concorrência, a desenvolver novos projetos.	1	2	3	4	5	6	7
D	A nossa empresa é rápida, em relação à concorrência, a desenvolver novos produtos e soluções.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:
Em comparação com nossos concorrentes mais directos, a nossa empresa:

		Muito Débil			Não Débil nem Forte			Muito Forte
A	Tem crescimento de vendas	1	2	3	4	5	6	7
B	Tem rentabilidade.	1	2	3	4	5	6	7
C	Tem crescimento no número de funcionários.	1	2	3	4	5	6	7
D	Tem qualidade do produto / serviço.	1	2	3	4	5	6	7
E	Tem variedade de produtos / serviços.	1	2	3	4	5	6	7
F	Tem satisfação do cliente	1	2	3	4	5	6	7
G	Tem fidelização do cliente.	1	2	3	4	5	6	7
H	Tem quota de mercado.	1	2	3	4	5	6	7
I	Tem gestão de custos.	1	2	3	4	5	6	7

Indique por favor o grau de concordância com as seguintes afirmações:

		Discordo Totalmente			Não Concordo nem Discordo			Concordo Totalmente
A	A nossa empresa está satisfeita com o volume das exportações nos últimos três anos.	1	2	3	4	5	6	7
B	A nossa empresa está satisfeita com a sua parcela de mercado exportador nos últimos três anos.	1	2	3	4	5	6	7
C	A nossa empresa está satisfeita com a entrada em mercados externos nos últimos três anos.	1	2	3	4	5	6	7
D	A nossa empresa tem registado um crescimento anual médio das exportações satisfatório, nos últimos três anos.	1	2	3	4	5	6	7

Dados sobre a empresa

N.º de empregados _____

Ano de fundação da empresa _____

Numero de marcas representadas _____

Quais? _____

Qual é forma jurídica da sua empresa?

Em nome individual Sociedade por quotas Sociedade Anónima

Outra, qual? _____

Dados Profissionais do respondente:

Idade: _____ Posição hierárquica/cargo na Organização: _____ Tempo de permanência na
Organização _____

Tempo de experiência neste Sector de Actividade: _____ Formação Académica: _____

Formação Especializada no Sector de Actividade _____ Regular? _____ Ocasional? _____

Quais as Entidades Formadoras? _____

A quem pertence a Gestão da Organização? _____

Indique onde está localizada a empresa

Distrito: _____

OBS:

Se desejar receber um relatório/síntese dos resultados desta investigação, indique, por favor, aquando da devolução deste questionário, a morada ou endereço de *email* para onde pretende que seja enviado.

Muito obrigado!