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Candidate: Msc. **Xhavit Islami**

The relation between human resource management practices, supply chain management practices and competitive strategy as strategic instruments and their impact on organizational performance in manufacturing industry

- Doctoral Thesis -

Mentor: Prof. Dr. **Marija Topuzovska Latkovikj**

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List of abbreviations

AMOS	*Analysis of Moment Structures*	3PL	*Third - party logistics*
CS	*Competitive Strategy*	SC	*Supply Chain*
HRMp	*Human Resource Management Practices*	RecSel	*Recruitment and selection*
IBM	*International Business Machines Corporation*	TraDev	*Training and development*
KAS	*Kosovo Agency of Statistics*	TeaPar	*Teamwork and participation*
OP	*Organizational Performance*	PerApp	*Performance appraisal*
SCMp	*Supply Chain Management Practices*	ComInc	*Compensation/incentives*
SPSS	*Statistical Package for the Social Sciences*	SupPar	*Strategic supplier partnership*
OLS	*Ordinary Least Squares*	CusRel	*Customer relationship*
EFA	*Exploratory Factor Analysis*	InfShar	*Information sharing*
CFA	*Confirmatory Factor Analysis*	LeaMan	*Lean manufacturing*
VIF	*Variance Inflation Factor*	PosStr	*Postponement strategy*
KMO	*Kaiser-Meyer-Olkin*	CosLea	*Cost-leadership strategy*
IFI	*Incremental Fit Index*	DiffStr	*Differentiation strategy*
NNFI	*Non-normed Fit Index*	IntStr	*Integrated strategy*
CFI	*Comparative Fit Index*	OpePer	*Operational performance*
RMSEA	*Root Mean Square Error of Approximation*	FinPer	*Financial performance*
SRMR	*Standardized Root Mean Square Residual*	MarCom	*Market competition*
SEM	*Structural Equation Modeling*	Org_size	Organizational size
ROI	*Return on Investment*	Org_age	Organizational age
ROS	*Return on Sales*	SCI	Supply Chain Integration
ANOVA	*Analysis of variance*		
AVE	*Average variance extracted*		
CR	*Composite reliability*		
HR	*Human Resource*		
TQM	*Total Quality Management*		
JIT	*Just-in-time*		
SMART	*Specific, Measurable, Achievable, Relevant and Time-bound*		

ABSTRACT

Doing business in an increasingly turbulent marketplace requires integrating strategically sound choices (to increase the ability to survive, adapt and prosper despite dynamic changes) that go beyond organizational boundaries. Although, a strategic approach is essential to achieving a competitive advantage and improving organizational performance in a tumultuous environment, competition is no longer through a single strategic instrument but rather among a strategic chain of managerial choices. A perusal of the literature shows that a broad frame of references for organizational success is not adequately developed; it suffers from the absence of an integrative strategic model. Therefore, by taking an interdisciplinary approach with a relational perspective, this thesis takes an integrative and fresh approach toward illuminating the role of supply chain management practices and competitive strategy in realizing the potential influence of human resource management practices on organizational performance. Using the data obtained from 157 manufacturing organizations, it tests, examines and develops the mediating role of supply chain management practices and the moderating role of competitive strategy. The findings indicate a positive linkage between HRM practices and SCM practices, and a positive influence of HRM practices, SCM practices and two competitive strategies on organizational performance. In addition, the findings also show that SCM practices mediate the relationship between HRM practices and organizational performance. Although this research thesis could not provide significant evidence to show that competitive strategies moderate the direct effect of HRM practices and the mediation effect of SCM practices on organizational performance, it highlights that both SCM practices and competitive strategy are necessary to increase the actual value of HRM practices and achieve business success.

Keywords: human resource management practices; supply chain management practices; competitive strategy; organizational performance; manufacture industry.

DECLARATION

I, Xhavit Islami, declare that this thesis has been composed solely by me and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where it has been stated otherwise, by reference or acknowledgment, the work presented is entirely my own.

I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University;
- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- Where I have consulted the published work of others, this is always clearly attributed;
- Where I have quoted from the works of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself.

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DEDICATION

I do not believe I could have ever found the courage to pursue my calling in life if it were not for the unconditional support of my loving family. Therefore, this dissertation is dedicated to my parents, Ajvaz and Nazife Islami, who have given me their unreserved love and support in all things major and minor; to my wife, Vjosa Islami, who encouraged me to pursue my dreams and finish my dissertation; and to my daughter Stina Islami, who has given me the greatest gift of all in life, the opportunity to be called “father” for the first time.

CHAPTER I – INTRODUCTION TO THE RESEARCH PROBLEM

This chapter presents the initial issues that lead to the key components of the current study including the preface, pertinence of the research problem and research questions. It also specifies the subject, goal, and objectives of the current study, concluding with a guideline of the chapters' location and contents. Thus, the aim of this chapter is to show: (a) what is known by academics and researchers related to strategic management instruments, what has been done and why this topic is important; (b) what is missing in the current literature, what are the gaps (citing authors' requirements for future research dimensions needed); (c) what will be achieved in the current study and the extent of its contribution to science; (d) why conducting this study and achieving the targeted results is important, theoretically and practically; (e) finally, it indicates the activities that should be taken to advance this topic/issue from its current position to the desired state that this study aims to achieve.

1.1 Preface

The trend of the business environment is changing fast and current market solidity may suddenly turn to uncertainty in the near future. In an unpredictable market, competitive intensity changes occasionally. Organizations[1] continuously try to increase their competitive power to beat their rivals in order to reap the benefits of gaining the title of the last survivor and market leader. To cope with this tremendous uncertainty, the highest in the history of mankind, organizations must be prepared to respond to unanticipated changes. Thus, they must always be prepared to act with appropriate resources and capabilities on hand for the next rounds of the fight.

The players in the competition game change over the times. Currently, traditional resources such as accessible capital sources, product technology and process, and so forth, which were hitherto critical to winning the match (Pfeffer, 1994), have failed to produce results to outrival competitors. Consequently, human resources as an indispensable asset of an organization are the indisputable solution to clarifying all uncertainties over how an organization could enhance

[1] In this study terms such as "organization", "firm" and "company" have the same meaning, thus the term the organization is equivalent to the firm and/or the company.

performance, achieve competitive advantage, compete in the market and improve organizational performance for an extended period of time (Lee et al., 2010). The human resources department of an organization should carefully manage industry factors and pursue a suitable competitive strategy in order to increase its competitive advantage and create a viable organizational performance (Porter, 1985).

Based on strategic literature, the ability to increase organizational performance extends within and beyond organization boundaries. Internal resources and industry factors are considered the main factors that ensure and retain organizational success. Therefore, the continuous efforts of strategic researchers to answer the core strategy question: why organizations succeed or fail, can be summarized in two theories: (a) resource-based view (RBV) and (b) industrial organization theory (I/O). Proponents of resource-based theory claim that internal factors must be examined during the process of formulating a strategy for an organization to flourish (e.g. see, Barney, 1991, 2001; Grant, 1991; Neffke & Henning, 2013; Mulolli et al., 2015). It argues that achieving a competitive advantage and organizational success depends on the proper use of its human, physical and organizational resources, highlighting that business success stems from and is created inside organizational boundaries. Accordingly, the core of an organization's competitive advantage are the valuable resources that the organization possesses, which might be tangible, but often are intangible assets such as: reputation, skills, image, or the like, (Barney, 1991, 2001) which should not be easily imitated by competitors.

On the other hand, proponents of the industrial organization theory proclaim that an appropriate analysis of industrial factors is vital to creating a strategy that leads to organizational success (e.g. see, Mason, 1939; Bain, 1956, 1968; Porter, 1981, 1985, 1991; Sampaio et al., 2019), which compared to resource-based theory displaces the merit for business success beyond organizational boundaries, in industry. Porter (1991) divided the origin of organizational profitability into positioning effect and industry effect, indicating that the attractiveness of the industry where the organization competes and its relative position in that industry are critical to an organization's success. In this respect, it is worth noting that the turbulent waters of international competition of the last few decades have abated concerns over whether internal, external or industrial factors are more vital to creating, capturing and sustaining a competitive advantage and organizational success, even while an organization's activities are focused on integrating factors from these environments. Thus, an effective integration and appreciation of

both internal and external factors is crucial to achieving and maintaining a competitive advantage (David & David, 2017).

In this vein, this study makes an effort to integrate essential elements from both of these theories and builds a strategic model that facilitates the creation of a sustainable organizational performance. Significant elements stemming from both theories, which have been studied and analyzed thoroughly in order to achieve a sustainable organizational performance, are: human resource management, supply chain management and competitive strategies. Accordingly, the essential prerequisite for organizations to remain competitive in the global market and to increase their organizational performance is a clear understanding and proper application of any of three key strategic instruments[2]: (a) human resources management (Kalleberg & Moody, 1994; Becker & Gerhart, 1996; Richard & Johnson, 2001; Koys, 2003; Chen et al., 2003; Armstrong, 2006; Lee, 2019); (b) supply chain management (Kuei et al., 2001; Power et al., 2001; Moberg et al., 2002; Tan et al., 2002; Childerhouse & Towill, 2003; Li et al., 2006; Aswini et al., 2019; Yildiz & Sezen, 2019); and (c) pursuing competitive strategies (Porter, 1985, 1996; Beal, 2000; Noe et al., 2017; Akpoviroro et al., 2019; Islami et al., 2020a).

Recently, strategists have come to the realization that improving the efficiency of only one strategic instrument is not enough to make an organization a strong competitor in the long-term. Indeed, a sustainable organizational performance cannot be considered the merit of a single strategic instrument. Experience has shown that an effective application of human resource management does not produce the desired results in organizational performance without its incorporation into a competitive strategy or the establishment of a specific relationship with industry factors. Thus, researchers are currently focused on testing the relationship between strategic instruments and measuring the effect of an integrative strategic model on organizational performance, which has opened a new window for future investigations.

For instance, insight into specific aspects or perspectives of supply chain management are offered on various theories such as: resource-dependency and resource-based theory (Rungtusanatham et al., 2003), industrial organization and associated transaction cost theory (Ellram, 1990; Miles, 2012) and competitive strategies (Porter, 1985; Adăscăliței & Guga, 2018).

[2] In this study, three factors: human resource management, supply chain management and competitive strategy are presented as strategic instruments. Each of them plays a crucial role as an instrument in creating a sustainable organizational strategy. The integrative function among these instruments in enhancing organizational performance is similar to the integration of musical instruments in creating symphonies.

Additionally, supply chain management practices are directly dependent on human resource management (Hohenstein et al., 2014), on management and employee support for SCM programs (Dooley & Fryxell, 1999; Dow et al., 1999) and on the successful implementation of employee training (Bubshait & Farooq, 1999; Goldstein & Ford, 2002). Intense global competition and advancements in information technology have enticed many world-class manufacturers into adopting an integrated strategic approach to supply chain management (Tan, 2002). Despite the increased attention paid to supply chain management and the expectations from it, the literature does not offer much evidence of successful implementations (Li et al., 2005).

Researchers have used two important approaches to explain the position of testable variables in an integrative strategic model: behavioral perspective and contingency theory. The behavioral perspective suggests that HRM practices should be linked to competitive strategy (Lee et al., 2010). Meanwhile, contingency theory specifies that the link between organizational practices (HRM and SCM) is conditioned by the type of competitive strategy that an organization pursues. It claims that organizations should carefully harmonize HRM and SCM practices to the competitive strategy so as to enhance their performance. This study argues for the complementary effect between behavioral and contingency perspectives, and not their rivalry.

Increasingly, researchers are focusing on integrating these two approaches, as they have been shown to be successful. In this respect, it is worth mentioning that using both of these approaches, a trinomial positive relationship between human resource management practices, business strategy and firm performance, is evidenced by Lee et al. (2010). Moreover, several other researchers have used this integrative approach in their studies and have found a positive relationship between supply chain management practices, competitive advantage and organizational performance (Li et al., 2006). Likewise, Qi et al. (2011) analyzed the relationship between competitive strategy, supply chain strategy and business performance, examining the moderating effect of environmental uncertainty. Huo et al. (2014) have also measured the impact of supply chain integration on firm performance, employing competitive strategy dimensions as a moderator in this relationship.

Although several different researchers have tried to measure various aspects of this issue, sufficient gaps continue to exist that need to be developed theoretically and tested empirically in relation to this topic. Thus, “despite their prevalence and significance, competitive wars have

received limited attention from the strategy literature. Our knowledge of how inter-organizational linkages influence competitive wars is particularly lacking" (Yu et al., 2020 – in press). Collectively, these studies represent attempts to address numerous, diverse but valuable, aspects of analyzing the integration of strategic instruments. Because of a lack of a unifying conceptual framework, it can be said, with reason that much remains unknown about how and when HRM practices resulting from inter-organizational relationships and competitive strategy can provide an improvement to organizational performance. Thus, the presence of an integrated four-dimensional strategic model, incorporating HRM practices, upstream and downstream sides of SCM practices, dimensions of competitive strategies and linking such activities to organizational performance, detracts from the usefulness of the application of previous results on strategic management.

1.2 Actuality of the Research Problem

The difficulty of organizations to perform at a high level stems from a failure to include crucial strategic instruments within their organizational model. Hitherto, strategic research has been predominantly focused on the measurement of performance dimensions and on assessing the impact of a single strategic instrument on organizational performance. Essentially, it was never specified how organizations that built long term strategies integrate key strategic instruments, HRM practices, SCM practices and competitive strategy, which are the main factors that contribute to business success. Moreover, empirical studies on strategic management leave numerous gaps in their efforts to clarify the relationship process of these strategic instruments. Indeed, this relationship is yet to be fully understood. Therefore, researchers need to inspect various contingencies that might mediate or moderate this relationship.

Various authors claim that future research needs to develop these strategic instruments practices and measure the relationship between instruments to provide a sustainable organizational strategy. For instance, the depth of the link between resource attributes (real or perceived, tangible or intangible), sustainable competitive advantage and firm performance should be examined (Miles, 2012). Future researchers should also evaluate and compare different practices and techniques with the aim of finding and drawing on the best practices in human resource management and supply chain management (Hohenstein et al., 2014). Furthermore, they

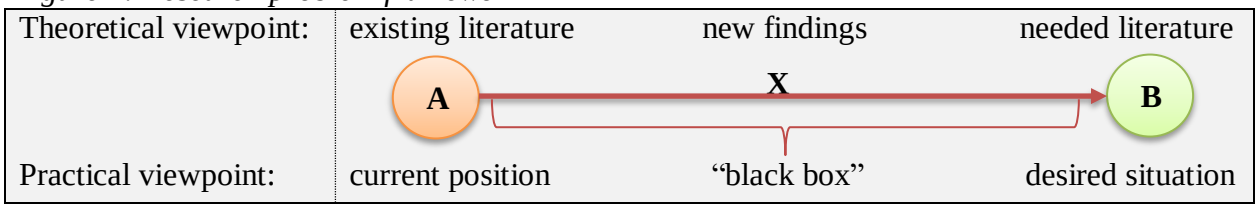
highlighted that organization managers should attain a global mindset in order to create a sustainable strategy that measures up to international organizations in global competition. The influence of the supply chain strategy in practice and the method in which organizations build capabilities to support their strategies over time are yet to be fully explored (Qi et al., 2011). Specifically, more work is needed to further explore the impact of supply chain management practices on performance by including other areas of the organization and their perspective (Tan et al., 2002). The effects of contextual factors on competitive strategies, supply chain integration practices, company performance and the relationships between them, need to be developed further (Huo et al., 2014). Thus, researchers are increasingly demonstrating the importance of creating integrative strategic models, which measure the relationship between several strategic instruments simultaneously.

The central research problem that this study addresses is to examine, understand and develop the relationship between three strategic instruments, i.e. HRM practices, SCM practices and competitive strategy, as well as their direct and integrative effect on organizational performance. It presents four levels of strategic management: firstly, it develops and clarifies HRM practices and their effect on organizational performance; secondly, it develops and clarifies SCM practices and their effect on organizational performance; thirdly, it clarifies competitive strategy dimensions and their contingent role on HRM and SCM practices (moderating them on the relationship with organizational performance); and fourthly, it finds the relationship between HRM practices and organizational performance, mediated by SCM practices and moderated directly and indirectly by competitive strategy.

The research problem is visually presented in Figure 1. For additional clarity, it is separated into two complementary segments. The first segment presents the theoretical viewpoint, examining the lack of study in this field, highlighting the gaps in the literature that exits and the need to fill those gaps with additional research, which elaborates an integrative strategic model. In this viewpoint, point **A** – represents the current state of the literature, research and findings published regarding an integrative strategy approach. **X** – represents the need to develop HRM practices, SCM practices and competitive strategy dimensions and to test the relationship between them in order to create an applicative integrative strategy that enhances organizational performance. Point **B** – shows the desired situation of having sufficient literature to explore a sustainable strategy that increases the competitive advantage of organizations in domestic and global

markets. On the other hand, the second segment presents the practical viewpoint, in which the problem is the difference between the current position and the desired position of organizational performance. According to this viewpoint, point **A** – represents the current performance of the organization, where its performance might be weak (e.g. whether the organizational performance is under the industry average or general market). **X** – shows the "black box", i.e. what happens within organizations and how it can be linked to HRM practices, SCM practices and competitive strategy dimensions, which lead organizations to a higher performance. Point **B** – represents the desired situation with higher organizational performance (e.g. achieving an organizational performance that is higher than the industry average or leading in a competitive market).

Figure 1: Research problem framework



Source: author

1.3 Aim and objectives of the study

Using the relational perspective, this study begins to explore the "black box" between HRM practices, SCM practices, competitive strategies and organizational performance. Specifically, it examines the relationships between a set of network-building HRM practices, SCM practices, dimensions of competitive strategies and organizational performance. Furthermore, it aims to provide a theoretical, methodological and applicative understanding of the integrative strategic approach by providing an answer to the research questions related to the effectiveness of strategic instruments on organizational performance.

This study investigates the role of supply chain management practices and competitive strategy in realizing the potential impact of human resource management practices on organizational performance. It strives to examine how SCM practices convey the role of HRM practices in improving organizational performance under varied dimensions of competitive strategy. Using the data from 157 participants (manufacturing organizations), it tests the model that posits SCM

practices as a mediator to the link between HRM practices and organizational performance and competitive strategy as a moderator to the nexus of these linkages.

The goals that this study attempts to achieve can be defined as:

- Creating and exploring an integrative strategic model/approach;
- Clarifying the organizational advantages and disadvantages from pursuing an integrative strategic model;
- Determining the role of HRM practices as an organizational resource that leads the organization toward success;
- Developing HRM and SCM practices as serious instruments of creating sustainable organizational strategy;
- Measuring the importance of SCM practices as a mediator and competitive strategies as a moderator of the relationship between HRM practices and organizational performance;
- Analyzing the contingent effects of competitive strategies and integrating them with HRM and SCM practices to create a sustainable competitive advantage for the organization;
- Creating guidance for further strategic researchers and practitioners to develop the organizational system that copes with global competition.

To meet the above-mentioned goals, it is necessary to clarify the objectives of this study and explain the way in which these study goals will be achieved. Thus, the objectives include:

- A review of the literature related to the key strategic instruments, which aims to build a conceptual model of the study. The literature review is oriented in four directions: HRM practices, SCM practices, competitive strategies and organizational performance. Specifically, defining the role of HRM on organizational performance, as well as developing HRM practices that contribute directly to SCM practices, and directly or indirectly to organizational performance, which relationships are moderated by competitive strategies; defining the dimensions of competitive strategies in terms of competitiveness and their impact on utilizing SCM practices and organizational performance; defining and developing SCM practices in terms of a collaboration with HRM practices, competitive strategy and organizational performance.
- Verifying the relationship between HRM practices, SCM practices and competitive strategies with organizational performance, indicating which of the instruments have more impact on organizational success based on the data gathered by manufacturing organizations;

generating critical knowledge of pursuing a competitive strategy; analyzing an integrative strategic model realized empirically, which provides a competitive advantage for organizations in the long-term; testing the conceptual framework using mathematical models, computer algorithms and statistical methods.

- Identifying problems that require further elaboration and deep revision in the field of strategic management.

1.4 Research Questions

This study addresses the concerns of strategic authors and clarifies certain issues that are absent in existing literature. Thus, the research problem described in paragraph 1.2 is solved by providing answers to several research questions that are rigorously treated in this research study, which will enable us to achieve the aims and objectives of this study. Thus, the crucial statements of this study have been presented in question form, as follows:

- Which practices represent HRM effectively and why?
- Which practices represent SCM effectively and why?
- Do organizations with a high level of HRM practices have a higher level of SCM practices?
- What is the effect of SCM practices as mediator on the relationship between HRM practices and organizational performance?
- Which HRM practices are more significant, mediated directly and indirectly by SCM practices, to organizational performance? Do organizations with a high level of HRM and SCM practices have a high level of organizational performance?
- Which dimensions represent the fundamental meaning of competitive strategy? Which dimension is more appropriate to pursue? Do organizations with a high level of HRM practices and SCM practices moderated by competitive strategy have a high level of organizational performance?
- Which dimension of competitive strategy is more efficient in moderating the effect of HRM practices and SCM practices on organizational performance? Do organizations with a high level of HRM practices mediated by SCM practices have a high level of organizational performance?

- How is organizational performance affected using the integrative model of strategic instruments, HRM practices, SCM practices and competitive strategy dimensions? How does removing any of the instruments from the proposed model alter organizational performance? Which practices and dimensions create the most successful relationship between proposed strategic instruments that lead to higher organizational performance? What are the most important practices (dimensions) on the proposed integrative strategic model?
- What is the main goal that assumes to create an integrative strategic approach?

1.5 Chapters' Outline

This study is comprised of seven chapters as key parts of its outline. Chapters 5 and 6 answer the research questions and test the research hypotheses.

Chapter 2: Literature Review and Conceptual Framework

Chapter two presents existing literature as a background for constructing the conceptual model of the study. The literature explored and analyzed in this chapter is related to HRM practices, SCM practices, competitive strategies and organizational performance, as well as their relationships. This chapter will develop the practices of HRM and SCM, competitive strategy dimensions and organizational performance dimensions. It also explains the main gaps in the existing literature that need to be analyzed further in this study related to the integrative strategic instruments approach. Finally, it presents the existing findings in this field and highlights the researcher's appeal for further research in this area.

Chapter 3: Instruments' Relationship and Hypotheses

Chapter three presents the logical relationship between instrument dimensions that are presented in the strategic literature. Therefore, based on previous credible research studies of the strategic area, this part is focused on three main issues, i.e.: (a) presenting the relationship between HRM practices, SCM practices, competitive strategy and organizational performance, (b) presenting the mediating role of SCM practices on the relationship between HRM practices and organizational performance, and (c) showing the moderate effect of competitive strategy on the relationship between HRM and SCM practices and organizational performance. Lastly, it examines the relationship between strategic instruments, misunderstandings of these

relationships and the lack of literature regarding these relationships, which will be supplemented by the outcomes of this study.

Chapter 4: Research Methodology

Chapter four explains the methodology employed to analyze the relationships cited in this study. It clarifies the research method used, research strategy pursued, questionnaires designed and the estimation method for analyzing questionnaires. It also explains the philosophical assumption and methodological implications in relation to the quantitative approach. In particular, the process of data collection, data analysis and the ethical issues raised from distributing our questionnaires are discussed.

Chapter 5: Data Analyses and Results

Chapter five finds and analyzes the empirical issues related to the gathered data. It presents the statistical tests, such as: t-test, ANOVA, Pearson Correlation, Regression Analysis (including hierarchical linear regression), structural equation modeling and mathematical models that enable us to find information with a high degree of accuracy.

Chapter 6: Discussion and Research Implication

Chapter six presents discussions on the findings of this research thesis and their impact on the proposed business model. It is also dedicated to analyzing and exploring the theoretical and managerial implications and the further research that is needed in this area. Several path-ways of creating an integrative strategic instruments model will be suggested based on the particular findings, which will enable organizations to remain comfortable in the competitive market as well as propound a managerial framework for strategy implementation.

Chapter 7: Conclusions and Limitations

In the final chapter, this study's contributions will be presented in the form of conclusions. Additionally, the limitations of this study will be discussed, along with future studies that are needed in the area of integrative strategic approach.

CHAPTER II - LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter presents the definitions provided by earlier authors of the issues examined in this study and the findings found in the existing literature related to this topic. Additionally, the theoretical and practical findings that treat the relationship between strategic instruments, such as HRM practices, SCM practices, competitive strategy dimensions and organizational performance are also reviewed.

Hence, this chapter outlines what is currently known about these strategic instruments, compares and confronts different sources and expert opinions about these instruments, finds the important issues or variables in the examined topic, describes research questions and identifies further questions or issues for future investigation, shows the way that this study deals with research findings and enables comparison to previous works, provides a synthesis of all the relevant information in a way that readers will be able to understand and which will properly support the work (Matthews & Ross, 2010). Additionally, it helps readers by enabling them to understand what is revealed in the literature before the study is published and how it complements existing literature. Indeed, the literature review is focused explicitly on describing, analyzing and developing the strategic perspective of HRM practices, SCM practices, competitive strategy dimensions and organizational performance dimensions (operational performance and financial performance), which lay the groundwork for the research hypotheses in the pursuing chapter.

2.1 Human resource management

The role of human resource management and its integration into organizational strategy is considered the main indicator in achieving the long-run sustainability of competitive advantage. Authors agree that the general purpose of HRM is to provide and improve the organization's success through people. In fact, there does not appear to be a single definition of HRM that is acceptable to all authors. This study employs the definition adopted by Armstrong (2006), who defines HRM as "a strategic and coherent approach to the management of an organization's most

valued assets – the people working there who individually and collectively contribute to the achievement of its objectives" (p. 3).

It is worth noting that in literature, human resource management is mainly highlighted as an organizational effort that uses employees as a resource that enables an organization to create and implement a specific strategy in order to achieve its objectives. For example, Laka-Mathebula (2004) describes HRM as a planned development process and an integrated strategy for effective utilization of human resources to achieve organizational objectives. Armstrong (2006) analyzed the writings of pioneers and later commentators, and found that one of the key HRM characteristics is its strategic role with an emphasis on integration. Additionally, it pointed out that the most important feature of HRM is its strategic integration, seeing people as a critical resource that enable organizations to implement their strategy. Previously, Guest (1991) considered that the main policy goal of HRM is to provide the organization with the ability to integrate HRM concerns into its strategic plans, to ensure the various aspects of HRM cohere and to encourage the line managers to incorporate an HRM perspective into their decision-making.

In this respect, HRM cannot be studied detached from its continuously improving components, i.e. its practices, policies and systems. Therefore, Noe et al. (2006) define HRM in reference to its practices, systems and policies, and their effects on employees' attitudes, behavior and performance. Human resource management is incessantly developing through its practices, which are the focus of current studies and are commonly proposed by authors for further investigation.

2.1.1 Human resource management practices

In the last three decades, scholars have been focused on examining the effects of HRM on competitive advantage and organizational outcomes. Furthermore, they have been preoccupied with defining the boundary of human resource management practices. In this respect, Lado and Wilson (1994) highlight that HR systems/practices "can contribute to sustained competitive advantage through facilitating the development of competencies that are firm specific, produce complex social relationships, are embedded in a firm's history and culture, and generate tacit organizational knowledge" (p. 699). The base of this definition is found in the resource-based theory, which is pointed out by Reed and DeFillippi (1990), Barney (1992), and Wright and

McMahan (1992). Minbaeva (2005) used the same definition to describe HRM practices in her study, which examines empirically the effects of HRM practices on organizational knowledge transfer.

However, HRM practices may not be considered as postulates, but to achieve their goal complementary conditions should exist. HRM practices provide better performance only by meeting three conditions: motivating employees to apply their skills, possessing employees with well-developed skills and providing platforms for employees to contribute their efforts (MacDuffie, 1995). These conditions are known as high-involvement HRM practices and have been confirmed to significantly improve a firm's financial performance (Huselid, 1995), operational performance (MacDuffie, 1995) and supply chain performance (Fu et al., 2013).

2.1.2 Classification of human resource management practices

Various HRM practices are analyzed depending on their research interest since no single study has been able to determine the clear boundaries of HRM practices that all authors agree on. As a result, different combinations of HRM practices have been tested through decades, as authors endeavor to determine a clear classification of HRM practices. Wright and Boswell (2002) lead forward the consistent efforts of researchers to classify HR practices. They used three approaches to classify available practices into three main categories: conceptual, factor analytic and cluster analysis.

First category – the conceptual approach, Guest (1997) suggests that the application of a conceptual approach enhances mediating variables. This approach was used by Delery et al. (1997) and Gerhart et al. (2000), who proposed the concept of skills, motivation and empowerment as categories for classifying HR practices. Following the methodology of Delery et al. (1997) on HRM categorization, Boudreau (1998) proposed the concepts of capability, opportunity and motivation as dimensions in classifying HR practices.

Second category – the factor analytic approach is useful when researchers wish to uncover the latent structure (dimensions) of a set of variables (Minbaeva, 2005). Huselid (1995) used a two-factor analysis entitled "employee skills and organizational structures" and "employee motivation" to support an HR practices model. Whereas, Lee and Chee (1996) support the factor analysis with a four-factor model using information sharing, knowledge/skill, power and

rewards, as practices in categorizing employee involvement. Factor analysis is used mostly: to reduce a large number of independent variables; to select a subset of independent variables from a larger set - based on which original variables have the highest correlations with the principal component factors; to create a set of factors to be treated as uncorrelated variables as an approach to handle the multicollinearity in such procedures as multiple regression; and to validate a scale or index by demonstrating that its constituent items load on the same factor, and to drop proposed scale items which cross-load on more than one factor (Minbaeva, 2005).

Third category – the cluster analysis approach is suitable when there is "a single most effective HRM system and a large group of firms have adopted it" (Delery, 1998, p. 301). Delery (1998) clarifies that the cluster analysis approach was found to be less useful for testing theoretical frameworks compared to the factor analytic technique. This approach was used in several studies e.g. Arthur (1992) categorized HR systems as being either "commitment" or "control" systems. Becker and Huselid (1998) identified four HR clusters: personnel, alignment, compensation and high performance. Ostroff (2000) showed a cluster analysis by setting up five HRM systems: comprehensive systems, involvement systems, traditional systems, identification systems and none system.

Nevertheless, Wright and Boswell (2002) upon analyzing these three classifications of HR practices concluded that the empirical classification structures did not reveal consistent patterns of HR practices, urging for further research in this area.

2.1.3 Using human resource management practices

Most authors require organizations to use more than one HRM practice simultaneously, arguing that it may produce synergy as a result of their complementarity effects. If HRM practices are applied in a rational system, they have a greater impact on organizational outcomes than the entirety of the individual effects of applying each practice alone (Ichniowski et al., 1997). Milgrom and Roberts (1995) argue for multiple complex interactions among several practices that reinforce the effect of other practices in either a positive or negative direction. Thereby, complementarities can be explored within groups of HRM practices (Delaney & Huselid, 1996). It is worth noting that Minbaeva (2005) stresses that researchers face a problem when they decide to test the complementary effect of HRM practices using interaction terms. According to

her, “with a few HRM practices, there are often an insufficient number of degrees of freedom to test a full set of interaction terms among all HRM practices” (p. 132). Although, Wright and Boswell (2002) suggest that future research needs to focus on integrating HRM practices given that “… integrating these areas of HRM will more profoundly impact the future of our field than those who aim toward dividing them” (p. 38).

2.1.4 Selecting human resource management practices

The importance of an organization’s employment of more than one HRM practice has recently been investigated in the area of HRM, where researchers analyze the relationship between HRM practices and their impact on different dimensions of organizational performance.

For instance, Hornsby and Kuratko (2003) analyzed the effects of HRM in US small businesses through five practices: job analysis and description, training benefits, recruiting and selection, compensation incentive and performance appraisal. Huselid (1995) shows HRM through seven practices: personnel selection, recruiting intensity and training, incentive compensation, performance appraisal, information sharing, labor/management participation and formal grievance procedures. Budhwar (2000) evaluated the level of strategic integration and devolvement of human resource management in the UK, defining HRM through six practices/functions: recruitment and selection, pay and reward, health and safety, training and development, industrial relations and work expansion or reduction. Lee et al. (2010) examined the relationship between HRM practices, business strategy and firm performance, measuring the HRM effect through six practices: teamwork, human resource planning, training and development, employment security, compensation/incentives and performance appraisal, which practices are considered to be positively related to product quality, firm performance, production flexibility, product delivery and production cost.

Sun et al. (2007) used a relational perspective which examines the linkage process between high-performance human resource practices and organizational performance. They used eight practices to describe high-performance human resources: selective staffing, extensive training, internal mobility, employment security, clear job description, results-oriented appraisal, incentive reward and participation. Otoo (2019) measured the mediating role of employee competencies in the relationship between HRM practices and organizational performance. He

presents HRM using five practices: recruitment and selection, training and development, career planning, employee participation and performance appraisal.

The most common practices that were consistently identified in the literature include selection, training and development, compensation and performance appraisal (Guest et al., 2004; McClean & Collins, 2011). It is worth clarifying that the same practices may essentially be representative even for green HRM. Practices that constitute the mainstream of green HRM, such as recruitment, selection, training, performance evaluation and rewards, are also considered traditional HRM practices (Renwick et al., 2013).

In this study, the boundaries of HRM practices are defined following the same logic as is used by Lee et al. (2010), which chooses practices based on their fit with other variables treated in the study. Accordingly, based on the suitability of HRM practices with other variables that are treated in this study, HRM is presented through five practices: recruitment and selection, training and development, teamwork and participation, performance appraisal and compensation/incentives.

2.1.4.1 Recruitment and selection

Recruitment and selection as processes that attract the insider and outsider prospective employees for an organization are mostly analyzed in literature as HRM practices. Ekwoaba et al. (2015) consider that "recruitment and selection are vital functions of human resource management for any type of business organization" (p. 24). The aim of recruitment and selection is to attract potential candidates and hire them as employees of an organization (Jabbour & Santos, 2008). Recruitment and selection are considered the key elements to achieving an organization's convenient work climate, which enables it to increase its overall productivity. Therefore, employers should pay special attention to the decision-making process for prospective employees that they will be hiring in their organization, Ahmad and Schroeder (2002) given that the intent of recruitment and selection is to identify the prospective employees who will fit well into the hiring organization.

It is worth clarifying the difference and linkage between recruitment and selection concepts. Recruitment represents the process of identifying and drawing in prospective applicants from within and without an organization and appraising them for possible employment (Gamage,

2014; Ekwoaba et al., 2015). Selection is (one phase further) the process by which distinct instruments are engaged to select the best candidate from a group of applicants in order to fill a particular vacancy (Jabbour et al., 2010; Ofori & Aryeetey, 2011). Indeed, the quality of human resources in an organization highly depends on the quality of applicants attracted, since the organization is going to select employees from the pool of applicants recruited, who were previously attracted through competition (Ekwoaba et al., 2015).

In this respect, the recruitment and selection process should fit organizational policies and its strategy in order to achieve a competitive advantage and increase organizational performance. Otoo (2019) posits that to select an appropriate candidate for an adequate position in the organization, the selection conditions should be in accordance with employees' development policies that are relevant and in harmony with the competitive strategy of the organization. An effective process of employee recruitment and selection may provide a competitive advantage and enhanced organizational performance (Chen & Cheng, 2012). Additionally, Otoo (2019) analyzed the direct effect of recruitment and selection on employee competencies and the direct effect of employee competencies on organizational performance and found that there is an indirect effect of recruitment and selection on organizational performance through employee competencies. Thus, the role and importance of recruitment and selection practices was advanced by Djabatey (2012), who argued that proper staffing is critical for the organization to build and sustain a competitive advantage.

The effects of the criteria used to evaluate the behavioral traits of the organization's prospective employees on the effectiveness of quality management practices were investigated by Ahmad & Schroeder (2002), who observed the moderate effect of recruitment and selection on increasing organizational competitiveness. In this vein, it is worth noting that researchers have persistently focused on determining the criteria that the recruitment and selection process should contain. For instance, a significant relationship between recruitment and selection criteria and organizational performance were evidenced by Katou and Budhwar (2006), Ekwoaba et al. (2015) and Selase (2018). Similarly, Syed and Jama (2012) highlight that applying an effective recruitment and selection process with the appropriate criteria is clearly related to organizational performance. Based on the above justifications it can be concluded that recruitment and selection practices might be one of the main preconditions of ensuring an organization's success.

2.1.4.2 Training and development

Training and development denotes the extent of formal training given to the employees of an organization (Lee et al., 2010). The strategic role of training and development for the organization and its employees is indicated in their definitions. Where, Khan et al. (2011) define training as "[…] the most important factor in the business world because training increases the efficiency and the effectiveness of both employees and the organization" (p. 63). Whereas, Armstrong (2006) defines development as "[…] an unfolding process that enables people to progress from a present state of understanding and capability to a future state in which higher-level skills, knowledge and competencies are required" (p. 570). Additionally, development refers to formal education, relationships, job experiences, and assessment of personality and capabilities that support employees on preparing for the future (Noe et al., 2017).

It is worth mentioning that studies have shown that training is a tool that may provide employee development. In accordance with this, Hohenstein et al. (2014) consider that training is crucial for employee development, as the "training programs can assess proficiencies and provide employees with best practices while increasing the necessary competencies for certain positions in order to ensure superior job performance" (p. 442). Training programs are considered an important knowledge and acquisition instrument, which increase new employees' knowledge and serve as tools to create contact between divisions of the organization and promote cooperation and knowledge exchange between local and parent company employees (Lane et al., 2001).

A good training and development process creates learning organizations and it makes sure that employees, through their value addition, can perform their jobs effectively, gain a competitive advantage and seek self-growth and, as a result, they will improve overall organizational performance (Niazi, 2011). Therefore, as training and development refers to the process that obtains or transfers knowledge, abilities and skills, the benefits both for employer and employees are strategic in nature (Tharenou et al., 2007). The strategic role of the training and development process is shown by meeting current and future business demand (Stavrou et al., 2010). Thus, Niazi (2011) shows that "[…] an ideal training shall become part of a company-wide strategy and it must be linked to business goals and organizational performance" (p. 44). Given the significant influence that training and development practices have on business success, their role has been analyzed in different aspects.

2.1.4.2.1 Training and development aspects

Peculiarly, the studies which analyze the training and development practice cover several aspects, such as: team perspective, team mental models, self-management and focusing on performance barriers in teams (Wright & Boswell, 2002). In this respect, it is worth noting that, according to Harel and Tzafrir (1999), training may affect organizational performance in two aspects: through improving relevant skills and abilities and through increasing employees' satisfaction with their current job and workplace. Later, Ellinger et al. (2005) measured the relationship between training and development programs and two aspects of employees' productivity: job satisfaction and job-related performance, and found a positive influence of training and development programs on both aspects. Likewise, Khan et al. (2011) empirically proved that training and development have a substantial effect on increasing overall organizational performance.

Also, training and development practices have a huge effect on realizing the supply chain successfully, where Hohenstein et al. (2014) highlight that managerial training shows a critical role in supply chain success. Training programs aim to develop the technical and interpersonal skills of supply chain managers in order to help them carry out their daily responsibilities and interact in teams (Tassabehji & Moorhouse, 2008). Training as a human resource practice can be adopted to reinforce the collaboration among supply chain members (Vanichchinchai, 2012). Therefore, employee training and development have been recognized as the most fundamental elements of strategic human resource management (Dhamodharan et al., 2010).

Despite the overwhelming evidence that demonstrates the positive impact of training and development on several dimensions of organizational performance, some authors warn that organizations should be rational in their decisions to spend on training and development practices. Organizations should conduct a cost-benefit analysis before deciding to pursue this practice. In accordance with this, Gubbins et al. (2006) indicate that despite the fact that organizations spend enormous capital on training and development, it is not always translated into improved organizational performance. For this reason, Armstrong (2006) stressed that formal training can be justified in five situations, i.e. when: a) the work requires skills that are best developed by formal instruction; b) different skills are required by a number of people, which have to be developed quickly to meet new demands and cannot be acquired by relying on

experience; c) the tasks to be carried out are so specialized or complex that people are unlikely to master them on their own initiative at a reasonable speed; d) critical information must be imparted to employees to ensure they meet their responsibilities; e) a learning need common to a number of people has to be met, which can readily be dealt with in a training program, for example induction, essential IT skills or communication skills.

Literature offers different aspects of training and it may consist of formal training, on-job training, off-job training, cross-functional training, skill training, classroom training, team training, literacy training, mentoring and so on (Gomez-Mejia et al., 2004; Armstrong, 2006).

2.1.4.3 Teamwork and participation

The role of teamwork and employee participation is an important factor in creating mutual trust and respect within an organization. Mutual trust and respect is the key to teamwork success and increases overall organizational performance (Adizes, 2004). Thus, the strategic role of teamwork and participation is crucial for business success. Consolidating teamwork in the organization allows employees to participate with ideas in the decision-making process and it facilitates the implementation of the organizational strategic plan.

What is the meaning of teamwork and participation concepts and what is their strategic role for an organization? Armstrong (2006) adopts the Katzenbach and Smith definition of a team, whereby "a team is a small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable" (p. 296). Lee et al. (2010) describe teamwork as referring "[…] to a group of employees created on purpose to carry out a particular job or to solve problems" (p. 1353). Whereas, Gulzar (2017) defines participation as "[…] a process which allows employees to exert some influence over their work and the conditions under which they work" (p. 59). A deeper explanation related to participation practice is given by Davis and Newstrom (2004), who define it as a mental and emotional participation of employees in a group and encourages them to contribute to shared goals and responsibilities. Based on the above definitions, teamwork and employee participation are highly related to each other.

The role of teamwork and participation as an HRM practice in increasing organizational performance is evident in the existing literature. The strategic role of employee participation in

the organization's success was advanced further by Armstrong (2006), who indicates that it is an agreement that confirms a chance given to employees to influence management decisions and contribute to improving organizational performance, as employee participation is a crucial element for a successful implementation of new strategies (Ardichvili et al., 2003).

Indeed, participation as an HRM practice plays an essential role in increasing employee commitment and it determines the degree of job satisfaction that grows employee motivation. Consequently, it may reduce turnover and work absences as employees feel that they have a suitable and better place to work (Davis & Newstrom, 2004). The indirect effect of employee participation through employee competencies on organizational performance was measured empirically by Otoo (2019), who found a direct positive impact of employee participation on employee competencies, and an indirect positive relationship with organizational performance through employee competencies.

2.1.4.3.1 Role of teamwork and participation

Studies have shown a significant positive relationship between teamwork and participation as HRM practice on the one hand, and decision making, motivation and organizational performance on the other. However, there are five major causes of poor employee participation in the decision-making process, such as: unwillingness of the management, lack of workforce diversity, absence of labor union activities, political grouping among workers and illiteracy of workers (Bhuiyan, 2010). Thus, despite numerous contextual factors that show a positive relationship between employee participation and organizational performance, there may also exist contextual factors that negatively influence this relationship, e.g. organization size, the quality of existing working relationships, task complexity and leadership skills (Perry et al., 2006). The negative influence of participation on organizational performance have not been supported empirically, but studies show that inadequate employee knowledge, a lack of employee support for the participation process, insufficient experience on the job and low general levels of employee motivation are some individual factors that may negatively influence employee participation.

It is worth noting that, successful organizations encourage employee participation using several interventions, such as: reward systems, performance feedback, job design and goal setting (Ledford & Lawler, 1994). The positive role of employee participation should not be considered

a postulate claims Bhuiyan (2010), who highlights that it is important to make additional measurements and to find if there is a positive financial effect of participation on organizational performance or if the cost of implementing participatory management systems may far exceed the actual return. In relation to this matter, Shaed et al. (2015) analyzed the existing literature and indicated that several factors have a positive relationship with employees' participation in the decision-making process, such as: gender, job experiences, education level, organizational performance, job performance, job satisfaction, job commitment, perceived organizational support, perceived supervisor support, attitude, training, leadership, trust, psychological ownership, self-efficacy, motivation and productivity. Whereas, Pfeffer (1998) points out that organizations using teamwork may provide three advantages: (a) teamwork depends on peer-based work rather than hierarchical, and leads to a more effective organizational achievement; (b) teamwork facilitates the flow of ideas from team members and finally produces an innovative solution; and (c) teamwork helps to save the administrative costs arising from paying specialists to oversee people.

2.1.4.4 Performance appraisal

A formal performance appraisal system in human resource management circles is traditionally considered as the key means of managing employees' performance. Performance appraisal is a process that occurs within performance management systems, which makes employees aware of their job performance. Organizations should regularly evaluate employees through their job analysis in order to identify employees' behavior and results and the difference between an effective and an ineffective employee's performance. Preparing a performance appraisal system in the appropriate way (e.g. evaluating with the same standards all employees who do the same job, and a timely notification of employees of their strengths and weaknesses) may offer several valuable benefits for both employees and the organization. Performance appraisal results serve as a legal justification for human resource managers to make the decisions to increase salary, promote, discipline or layoff their employees. Performance appraisals are considered an efficient method used by organizations for their employees' development, motivation and evaluation (Islami et al., 2018).

The role of performance appraisal in human resource management is multidimensional. It aims to enhance the process of setting goals and receiving feedback so as to direct, correct and improve employees' performance (Lee et al., 2010), to determine the existing status of the workforce's skills (Shaout & Yousif, 2014), and to get information about how well each employee is performing in order to identify and reward the good performers, or to provide a written justification on why the poor performer should be disciplined (Noe et al., 2017). Thus, the performance appraisal system can be used for administrative purposes that are related to employees' work conditions including promotion, rewards and termination (Gomez-Mejia et al., 2004), and it provides employees with information about their performance, while giving them directions on ways to improve their competencies to meet the changing needs of the organization (Minbaeva, 2005).

It is worth explaining the essence of performance appraisal, i.e. what the meaning of performance appraisal is? Armstrong (2006) defines performance appraisal "[…] as the formal assessment and rating of individuals by their managers at, usually, an annual review meeting" (p. 500). Noe et al. (2017) proclaims that "performance appraisal is the process through which an organization gets information on how well an employee is doing his or her job" (p. 321). In view of that, performance appraisal has the capacity to illuminate how an individual employee's behavior can contribute to group and organizational goals, and in that way increase the effectiveness of organizational commitment (Kuvaas, 2006). "Performance appraisal is simply a business imperative the performance evaluation process includes the characteristics necessary to meet the organizational needs (administrative, motivational, development and strategic) of all stakeholders (managers, employees and executives with strategic responsibilities)" (Caruth & Humphreys, 2008, p. 25).

The characteristics of performance appraisal are: top-down assessment, annual appraisal meeting, use of ratings, monolithic system, focus on quantified objectives, often linked to pay, bureaucratic – complex paperwork, owned by the HR department (Armstrong, 2006).

2.1.4.4.1 Performance appraisal viewpoints

Existing literature provides two viewpoints on the effects of performance appraisal on employee motivation or organizational productivity: (a) positive effect and (b) negative effect.

Several authors have demonstrated the positive effect of performance appraisal on employees' productivity and organizational productivity. Performance appraisal is used as an effort to direct and motivate employees' behavior by evaluating individual or workgroup performance, closely linking appraisals with incentive compensation systems, using internal promotion systems based on employee merit, and other forms of incentives that align the interests of employees with those of organizations (Huselid, 1995). Involving a self-appraisal, employee participation and communication of expectations in a performance appraisal system enhances employees' trust in organizational management (Mayer & Davis, 1999). Furthermore, performance appraisal systems help to identify employee skill deficits in their job, and it provides enough information on what trainings should be organized to eliminate employee skill deficiencies and how to develop employees in specific areas (Minbaeva, 2005). The perceived helpfulness of performance appraisal is directly related to emotional commitment and the relationship between the perceived helpfulness of performance appraisal and work performance is significant only for employees reporting high levels of perceived regular feedback (Kuvaas, 2011). In this respect, it is worth noting that employees' intrinsic motivation moderate the effect of performance appraisal on organizational performance (Kuvaas, 2006), whereas "autonomy orientation" moderates the relationship between performance appraisal reactions and work performance (Kuvaas, 2007). Hence, a wide range of research has demonstrated the positive role of performance appraisal, where a properly conducted performance appraisal may offer several positive organizational outcomes (Pettijohn et al., 2001).

On the other hand, several authors indicate that still the role of performance appraisal in the motivation process and organizational productivity may not be positive, it can serve as a deregulator. Most managers and employees dislike performance appraisals. Some of the words that come to employees' minds when they receive or give performance reviews are: "time-consuming," "frustrating," "dread," "burden" and "pain" (Noe et al., 2017). They argue that performance appraisal systems are ineffective to the point that they are manipulative, counterproductive, autocratic and abusive. And that these conditions can cause: a lack of consistency in the use of performance appraisals through the organization; a lack of an ability to distinguish among different performance levels; and a lack of an ability of the appraisal system to offer useful data for development, helping employees to build their skills and competencies, or to build a high performance culture. Performance appraisal has been discredited as it too often

has been operated as a top-down and largely bureaucratic system, as a means of exercising managerial control, tended to be backward-looking, concentrating on what had gone wrong rather than looking forward to future development needs, has little or no link with the needs of the business. Thus, managers have frequently rejected performance appraisal schemes as being time-consuming and irrelevant (Armstrong, 2006). An unsuccessful performance appraisal system results in several undesirable challenges that decrease employee efficiency, diminish morale and douse enthusiasm in supporting organizational values and objectives, consequently hindering the effectiveness of the organization (Osman et al., 2010).

2.1.4.5 Compensation incentives

Studies have shown that treating employees' compensation incentives as an HRM practice makes it an important means that effect individual and organizational performance. Compensation consists of "all the extrinsic rewards that employees receive in exchange for their work" such as benefits, wages and bonuses (Byars & Rue, 2006, p. 249). A tighter definition that is focused only on financial aspects of compensation shows that "compensation and pay refer to financial returns, such as fixed and variable payments, tangible services and benefits that employees receive for their work contribution" (Hohenstein et al., 2014, p. 440). It is worth mentioning that compensation is not limited only to the financial aspect, but it may be found as financial and non-financial incentive categories (Lee et al., 2010), which enhances employee motivation and improves organizational efficiency (Gulzar, 2017). Therefore, compensation benefits can be monetary (i.e. health insurance and paid leave), or non-financial (i.e. flexible work arrangements and well-being programs) that increase employee morale, commitment and satisfaction (Nankervis et al., 2008).

To better specify the compensation systems, Gomez-Mejia et al. (2004) highlight three types of compensation strategies: (a) the base compensation - fixed pay to employees, (b) pay incentives - bonuses and profit sharing, and (c) indirect compensation - health insurance, vacation, unemployment compensation. Recently, Noe et al. (2017) emphasized that total compensation comprises: (a) cash compensation - salary, merit increases, stock options, bonuses and other incentives and (b) benefits - paid vacation, health insurance and unemployment compensation. Furthermore, they indicated that total compensation is only a part of the total rewards, total

returns and inducements concepts, and as such, these concepts, apart from the total compensation, may also include other (nonmonetary) rewards that are associated with the employment relationship, such as: interesting or fulfilling work, development opportunities, good co-workers and recognition.

What are incentives? Noe et al. (2017) define incentives as "the effect a pay plan has on the behaviors of current employees" (p. 498). Minbaeva (2005) measured the degree of incentive compensation systems in two directions: performance-based compensation and extra recognition for superior performance. She found that creating a performance-based compensation system that rewards employees based on the value of their job and their personal contribution to organizational performance generates a strong incentive. Such an incentive using internal promotion systems that are grounded on merit helps employees overcome invisible barriers to their career growth (Huselid, 1995). Usage of monetary incentives based on merit criteria for rewarding employee performance has positive effects on their performance in the short term (Ponta et al., 2020). Incentive pay as a function of both intrinsic and extrinsic motivation has a significant positive effect on employee performance (Garbers & Konradt, 2014).

2.1.4.5.1 Importance of compensation incentives on performance

Compensation and pay usually reflect work performance and are considered an important factor in encouraging individual performance (Ellinger et al., 2002). Incentives and bonuses aim not only to attract devoted employees, but also to encourage individuals to apply more effort in order to provide a better performance (Ghazanfar et al., 2011). Thus, Noe et al. (2017) consider that two reasons exist in the employer's viewpoint about why pay is a powerful means to furthering the organization's strategic goals, (a) pay has a large impact on employee attitudes and behaviors, and (b) employee compensation is typically a significant organizational cost and thus requires close scrutiny.

In this respect, it is worth mentioning that Minbaeva (2005) posits two theories: the expectancy theory and the organizational justice theory, which imply a positive relationship between performance-based compensation systems and employee effort, where the expectancy theory viewpoint presents the existence of a clear linkage between individual effort and rewards. "Expectancy theory […] focuses on the link between rewards and behaviors, it emphasizes

expected (rather than experienced) rewards, in other words, it focuses on the effects of incentives" (Noe et al., 2017, p. 498). Whereas, the organizational justice theory viewpoint consists of whether employees perceive that they are receiving rewards based on their contribution to the organization (Minbaeva, 2005).

Compensation and rewards are considered an employee motivation-enhancing tool. Direct compensation has been considered a motivation-enhancing means through three practices: (a) contributing to reward and encouraging employee behavior, (b) promoting opportunity and benefits, and (c) eliciting discretionary effort (Liao et al., 2009). Moreover, rewards, as a motivation-enhancing system, contain three practices: (a) direct compensation that uses the following incentives: individual incentives (i.e. bonuses, commissions, piece-rate, and performance linked to pay); productivity/quality, gain-sharing and other group incentive plans; profit sharing; merit pay or skill-based pay (i.e. qualities, expertise or abilities are rewarded); and employee stock plans; (b) promotion opportunity looking at how the free positions are usually staffed for each of the occupation groups (i.e. from within the workplace or from outside the company); and (c) benefits or indirect compensation derived by additively combining the proportion of permanent full-time employees that are covered by each of the following indirect compensation benefits: pension plan, life insurance, stock purchase, dental care, supplemental medical and supplements to employment insurance benefits (Chowhan, 2016). All types of rewards, both intrinsic and extrinsic, are the focal point of employment contracts, as the reward is the main reason why people work (Harrison & Liska, 1994). For that reason, on determining wage rates for employees, organizational managers should take into account the lowest wage that is given to meet their living standards (Belete, 2018).

In accordance with this discussion, it is worth adding that Puspita (2019) explored the literature regarding the factors that may cause employees to leave their jobs and how financial incentives can reduce employees' intention to leave. The results suggest that organizations must craft the right policies, decisions and actions to retain employees after they have precisely identified the main reasons they intend to leave. It also indicates that salary and pay have a large influence on employee turnover. Finally, it mentions that to reduce turnover the organizational management must compensate adequately its employees, pay based on their performance, and in addition, provide incentives for employees such as individual bonuses, lump sum bonuses, other benefits and profit sharing.

2.1.4.6 Summary of HRM practices

Although different aspects of HRM are analyzed in literature, it is mostly explored through practices. There is no HRM practices framework that all authors agree on and use as a "postulate" package in different studies. An HRM practices framework is commonly selected based on its fitness with other research variables of the study. Accordingly, this study presents human resource management through five practices, namely: recruitment and selection, training and development, teamwork and participation, performance appraisal and compensation incentives. These practices were chosen to be analyzed and to measure HRM effects, based on three elements: (a) their positive influences on employee productivity, (b) their strategic role on organizational performance, and (c) their fit with other variables that are explored in this study.

The five practices selected to represent HRM effects have a logical relationship among them. Therefore, the adaptation of the organization's HRM department with its strategic goals in order to achieve a competitive advantage in the market should fulfill these five conditions. Firstly, it is crucial for organizations to utilize appropriate criteria in the recruitment phase and select employees based on those criteria/standards. If it is not possible to find employees with the knowledge that organizational processes require, they must implement training programs to achieve the desired employee results.

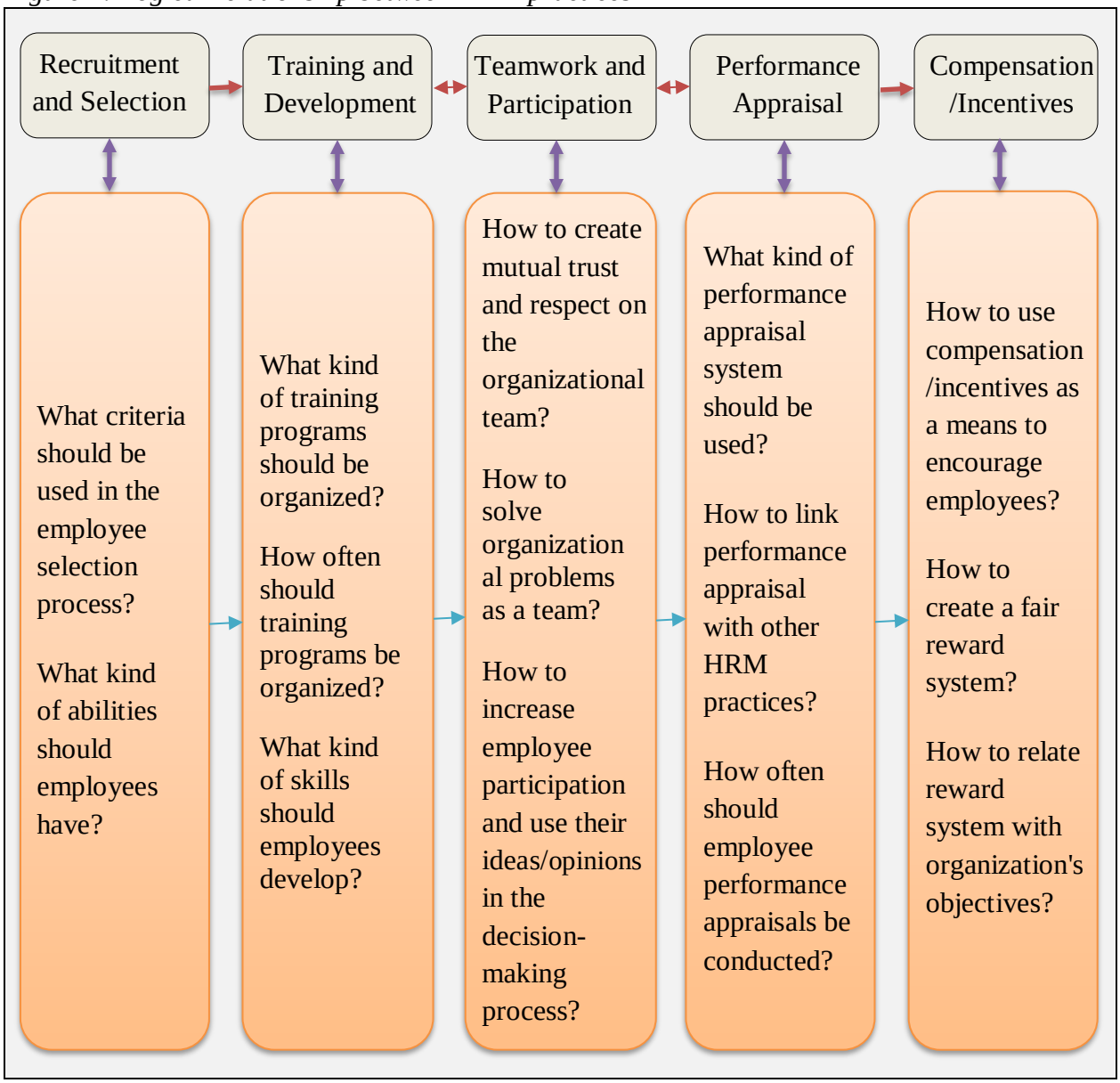
Secondly, organizations should organize training programs as an informal education process of human resources in order to equip new employees with the proper knowledge required for a specific job. They should also equip existing employees with new knowledge that is useful for implementing its organizational strategy and increasing its competitive advantage in the market.

Thirdly, they should create a suitable internal setting, where employees can contribute with their ideas and consider themselves an important part of the team. Creating this kind of team atmosphere within an organization may reduce employee resistance to implementing organizational tasks.

Fourthly, they should regularly use employee performance appraisals as a tool to inform each employee of their individual performances (their strengths or weaknesses). Performance appraisal results make available ample information to managers, which they may use to organize training for employees with weak performances. Furthermore, performance appraisal results should serve as a guide for employee compensation.

Finally, each employee should be compensated based on their individual performance and participation in achieving organizational objectives. Compensation (in different forms, financial or non-financial) should be used as an incentive for employees to be more engaged and efficient in their jobs. The logical consistency among HRM practices used in this study is presented in figure 2.

Figure 2: Logical relationship between HRM practices



Source: author

2.2 Supply chain management

Organizations cannot operate efficiently if they are isolated from their suppliers and other supply chain units, so they should go beyond their boundaries in order to be successful in a competitive market. The strategic role of SCM in improving organizational performance is clear, given that "today, firms view supply chain management as a strategic tool to increase their competitive advantage" (Qrunfleh & Tarafdar, 2013, p. 571). Overall, SCM definitions, in essence, have the same meaning, i.e. they try to describe organizations as an integrated process that involves activities or operations in the distribution channels from suppliers to the final consumer.

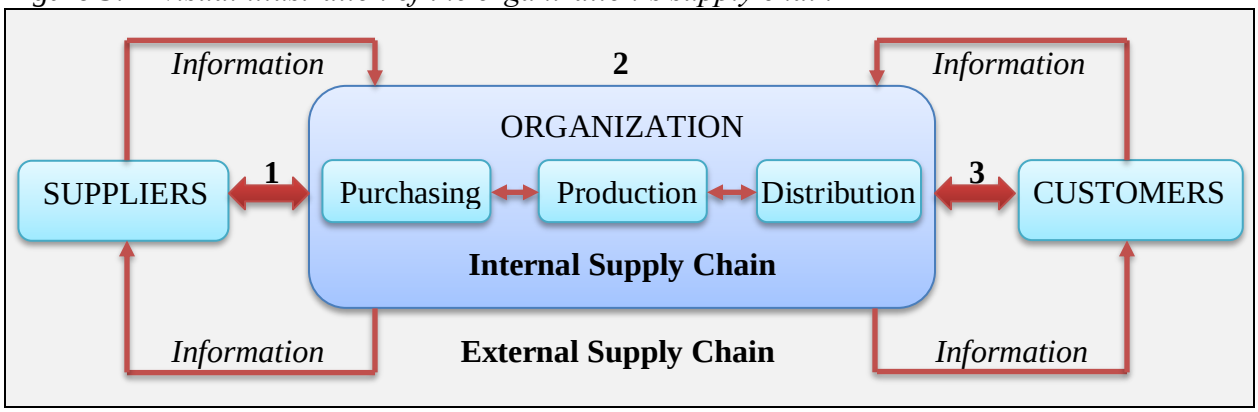
The definition of SCM used in this study is derived from an integration of two previous definitions, which have complementary elements and a strategic orientation: (a) the definition whereby SCM is "the management of upstream and downstream relationships with suppliers and customers in order to deliver superior customer value at less cost to the supply chain as a whole" (Christopher, 2016, p. 13), and (b) the definition whereby the SCM is defined as a "strategic and efficient coordination of the conventional business functions and the strategies across these business functions within a specific corporate and across businesses within a supply chain, for the aims of developing the long-term performance of the corporate and the supply chain as an entire" (Janvier-James, 2012, p. 196). Hence, the aim of SCM strategy as an effective competitive means is to appropriately integrate information and material flows across the supply chain (Childerhouse & Towill, 2003), in order to improve the principal organization's supply chain responsiveness to its customers (Melnyk et al., 2010).

In this vein, it is worth highlighting some definitions that are present in the literature in order to better clarify the meaning of SCM. For example, Monczka et al. (1998) define SCM as a concept "whose primary objective is to integrate and manage the sourcing, flow, and control of materials using a total systems perspective across multiple functions and multiple tiers of suppliers" (p. 78). Cooper and Ellram (1993) define SCM as "[...] an integrative philosophy to manage the total flow of a distribution channel from supplier to the ultimate user" (p. 13). Lummus and Vokurka (1999) define SCM in greater detail as "all the activities involved in delivering a product from raw material through to the customer including sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management,

distribution across all channels, delivery to the customer and the information systems necessary to monitor all of these activities" (p. 11).

The word SCM (as it is shown in figure 3) has been used to explain the planning and control of materials and information flows as well as the logistics activities not only internally within an organization but also externally between organizations (Chen & Paulraj, 2004, p. 119). Chen & Paulraj (2004) point out that it is used to: (a) describe strategic and inter-organizational issues, (b) discuss an alternative organizational form of vertical integration, (c) identify and describe the relationship that an organization develops with its suppliers, and (d) address the purchasing and supply perspective.

Figure 3: A visual illustration of the organization's supply chain



Source: (Chen & Paulraj, 2004, p. 120; Quang et al., 2016, p. 17)

The construct of the supply chain management in its content is not isolated from other management field theories or approaches, a number of fields such as: strategic management, organizational theory, operations management, management information systems, marketing, purchasing and supply, and logistics and transportation, have contributed to the explosion/development of SCM literature (Chen & Paulraj, 2004). Hence, "supply chain management has been considered as the most popular operations strategy for improving organizational competitiveness in the twenty-first century" (Gunasekaran et al., 2008, p. 549).

Implementation of SCM in the organization has three main goals: (a) to increase customer service through increased stock availability and reduced order cycle time, (b) to reduce inventory investment in the supply chain, and (c) to help build competitive advantage for the network in order to create customer value (Cooper & Ellram, 1993; Fernandes et al., 2017). Similarly, Chin et al. (2004) indicated that reducing the costs of operation, improving inventory, improving lead-time, improving customer satisfaction and remaining competitive are the five reasons

organizations implement SCM initiatives. SCM has become the focal point of management researchers given its importance to achieving organizational competitive advantage and increasing strategic value in the competitive market, and it is continuously developing through its practices. Thus, a clear understanding of SCM practices and their importance requires a more detailed explanation (Talib et al., 2011).

2.2.1 Supply chain management practices

The development trajectory of supply chain practices is directly related to research in supply chain management. Researchers of supply chain management have expanded "supply chain practices" by investigating empirically the different combinations of supply chain practices (Gorane & Kant, 2015). SCM practices are defined as "a set of activities undertaken in an organization to promote effective management of its supply chain" (Li et al., 2006, p. 109). In view of that, SCM practices involve a set of activities taken on by an organization in order to provide effective management of its supply chain (Koh et al., 2007).

In the function of developing SCM practices, researchers mainly have been focused on proposing theoretical frameworks of SCM practices (Chen & Paulraj, 2004; Cigolini et al., 2004; Quang et al., 2016; Fernandes et al., 2017) and on developing their constructs/measurements (Chen & Paulraj, 2004; Cuthbertson & Piotrowicz, 2008). Different strategic viewpoints have contributed to developing SCM practices. Thus, the notion of SCM can be approached from several perspectives, including: industrial organization, purchasing and supply, logistics, transportation and many others (Croom et al., 2000).

The application of good practices, such as: supplier partnerships, supplier quality evaluation, continuous improvement teams, customer satisfaction evaluation and competitive benchmarking may enhance the competitive advantage in organizational SCM (Powell, 1995; Dow et al., 1999; Evans & Lindsay, 2002; Gowen & Tallon, 2003). Evaluating SCM through its practices leads to two well-known SCM dimensions: (a) upstream - relation with the supplier side, and (b) downstream - relation with the customer side, which needs to be explored more in this study.

2.2.2 Supply chain management practices dimensions

According to existing literature, a good cooperation between organizations that belong to the same supply chain is considered a powerful source of achieving competitive advantages. Researchers have treated SCM practices over the years mostly in only one dimension, i.e. the upstream or downstream side of the supply chain. Most of the theoretical and empirical research into SCM has been focused on either the upstream or downstream side of the supply chain or on particular aspects/perspectives of SCM (Shah et al., 2002).

The upstream side of the supply chain connects the organization with its supplier, and there are several SCM authors that have analyzed this relationship (e.g. Vonderembse & Tracey, 1999; Shin et al., 2000; Handfield & Bechtel, 2002; Chen & Paulraj, 2004). Whereas, the downstream side of the supply chain connects manufacturers/organizations and retailers, this dimension of SCM has also been analyzed by several authors (e.g. Clark & Lee, 2000; Alvarado & Kotzab, 2001; Guan & Rehme, 2012). However, leading-edge organizations understand that transferring costs either upstream or downstream does not contribute to increasing their competitiveness, as all costs ultimately have to be paid by the final customers (Cigolini et al., 2004). Therefore, numerous researchers that have analyzed SCM effects have employed simultaneously both dimensions - upstream and downstream, in their studies (e.g. Tan et al., 1998; Frohlich & Westbrook, 2001; Min & Mentzer, 2004; Li et al., 2006; Bozarth et al., 2009; Lorentz et al., 2012).

In this ruthless competition, the issue is not whether the upstream or downstream side of the supply chain should be analyzed, given that an effective integration of both of these dimensions is important to achieving an organizational competitive advantage in the market. Thus, Lorentz et al. (2012) highlight the need of analyzing the overall process of supply chain strategy, including upstream and downstream dimensions, as both of these dimensions reciprocally influence each entity. According to Christopher (2016), there is a growing awareness that a significant amount of waste may occur in almost every supply chain, which comes in different forms, such as: in the form of inefficient use of energy, excessive packaging, resources that are not fully utilized, end-of-life scrappage and many others. For that reason, both upstream and downstream organizations need to be managed directly or indirectly by manufacturers in order to satisfy their customers (Chin et al., 2004). Many organizations have made significant progress in

reducing waste within the boundaries of their own business. Nevertheless, limited communication across supply chain boundaries is one of the major root causes of waste (Christopher, 2016). Wherein, upstream suppliers make forecasts of demand without access to information from their customers. As a result, buffers of inventory inevitably build up on both sides of these supply chain boundary interfaces. Consequently, there are huge gains that can be achieved by focusing on supply chain waste reduction, particularly through collaborative working and information sharing (Christopher, 2016).

Organizations may consider linking the needed networks in a supply chain process in a complex adaptive system (Lorentz et al., 2012) whereby, supply chain complexity is defined as the level of detail complexity (linked to the number of variables and subsystems in the system) and dynamic complexity (the interconnectedness of the variables and subsystems) exposed by the products, processes and relationships that make up an organization's supply chain (Bozarth et al., 2009). Accordingly, "clearly, a more general supply chain – comprised of suppliers of various components, a manufacturer subject to uncertainty in both supply and demand, and the many customers of the finished goods that the manufacturer produces from those components – has the potential to exhibit both detail and dynamic complexity" (Bozarth et al., 2009, p. 80).

It is worth mentioning that in a study conducted by Lorentz et al. (2012), who empirically measured the influence of the geographic dispersion of an organization's supply chain on intra-firm supply chain performance, the results indicated that increasing the geographic dispersion of the upstream supply chain increases the costs of warehousing and logistics administration. Whereas, in relation to the downstream dimension, it indicated that days of supply tend to increase due to a geographically dispersed sales network, inventory costs, cash-to-cash cycle and time inventory. Finally, they found that an increase of geographic dispersion in the upstream and downstream dimensions of supply chain causes a decline of perfect orders and increases the order fulfillment cycle time.

2.2.3 Selecting supply chain management practices

In empirical studies, the effect of supply chain management has been analyzed through several practices. Researchers have focused on finding practices that are important to providing organizational success, and that fit with other variables of their research topics. Both dimensions

of the supply chain (upstream and downstream) have been analyzed. This part aims to present the SCM practices that have been analyzed and developed over the years by leading researchers in the field, and which serve as a basis for selecting SCM practices in this study. Thus, it presents briefly a history of different SCM practices employed over the years.

For instance, in their empirical study, Tan et al. (1998) represent supply chain management by three practices: purchasing, quality and customer relations. Whereas, later Tan et al. (2002) expand those into six aspects of supply chain practices: supply chain characteristics, supply chain integration, customer service management, information sharing, geographical proximity and just-in-time (JIT) capability. Ulusoy (2003) proposed four SCM practices: logistics, supplier relations, customer relations and production, by which he assessed the supply chain and innovation management in the manufacturing industries of Turkey. Chen and Paulraj (2004) identified a set of four reliable and valid practices in the development of SCM practices as significant for SCM: supplier base reduction, long-term relationship, cross-functional teams and supplier involvement. Li et al. (2005) define SCM through six practices: strategic supplier partnership, customer relationship, information sharing, information quality, internal lean practices and postponement. Whereas, in their empirical study Li et al. (2006) used five distinctive practices to measure SCM: customer relationship, strategic supplier partnership, level of information sharing, postponement and quality of information sharing. By including five constructs (practices), they covered the whole process of supply chain management starting with the upstream side (strategic supplier partnership), information movement through a supply chain (level of information sharing and quality of information sharing), internal supply chain process (postponement) and downstream side (customer relationship). Koh et al. (2007) indicate that a set of the twelve practices are used to identify SCM: JIT supply, many suppliers, holding safety stock, subcontracting, few suppliers, close partnerships with suppliers, strategic planning, outsourcing, 3PL, close partnerships with customers, e-procurement and supply chain benchmarking. Talib et al. (2011) identify six major SCM practices: strategic supplier partnership, material management, customer relationship, information and communication technologies, close supplier partnership and corporate culture. Chong et al. (2011) evaluated SCPs such as supplier partnership, customer relationship, information sharing, IT and training. Gorane and Kant (2015) selected thirteen SCM practices, such as: agile manufacturing, benchmarking and performance measurement, organizational culture, green SCM, information

sharing, information technology, SC integration (supplier and customer relationship), just-in-time manufacturing, lean manufacturing, outsourcing, radio frequency identification, reverse logistics and vendor managed inventory to analyze supply chain practices. Bimha et al. (2019) reviewed the main supply chain management practices, such as: logistics, management of procurement, information and communications technology, inventory and customer service in tandem with other SCM associated notions, such as: supply chain integration, supply chain collaboration, customer relationship management, and supplier relationship management. Indeed, the existing literature illustrates SCM practices from a variety of perspectives with a common ultimate goal of improving organizational performance (Li et al., 2005).

In the present study, the boundaries of SCM practices are defined following the same logic as Li et al. (2006): "where practices are proposed to be multi-dimensional concept, including the downstream and upstream side of supply chain" (p. 108). As a result, based on the literature reviewed, this study represents the most important and applicable SCM practices, through five practices: strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy, which fit with other variables explored in this study. These five practices cover four dimensions of the supply chain: upstream (strategic supplier partnership) and downstream (customer relationship) sides of the supply chain, information flow through the supply chain (information sharing), and internal supply chain processes (lean manufacturing and postponement strategy).

2.2.3.1 Strategic supplier partnership

Building a strategic partnership with suppliers, which means creating an alliance between two or more organizations to facilitate each other in essential areas, such as: research, marketing, product manufacturing and distribution, is an important way to manage the supply chain (Khan & Siddiqui, 2018). Thus, strategic and trust-based relationships with supply chain partners are vital in achieving and sustaining a competitive advantage, as no organization could retain control in all of the different critical technologies required for producing a wide range of products (Chin et al., 2004).

The long-term relationship between the organization and its suppliers is defined as a strategic supplier partnership (Li et al., 2006). An effective strategic partnership emphasizes direct, long-

term association and encouraging mutual planning and problem-solving efforts (Gunasekaran et al., 2001). A strategic supplier partnership consists of: supplier relationship, supplier quality management, supplier involvement and collaboration between the leading organization and its supplier (Talib et al., 2011). It is about building better relationships with the selected strategic suppliers by which all members of the supply chain may benefit (Jacobs & Chase, 2014). It proactively manages the link between buyer and supplier, and it is beneficial for the supplier, buyer (manufacturer) and the ultimate user of products (Scott et al., 2018). Indeed, a strategic supplier partnership is designed to use the strategic and operational capabilities of individual contributing organizations, which helps all partners in achieving significant ongoing benefits (Monczka et al., 1998), and it enables organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of products (Li et al., 2005; Li et al., 2006).

Strategic partnerships in the supply chain should be generated based on mutual trust and a desire to work together, which have no barriers that hinder information transfer between partners (Tompkins, 2003). Therefore, a strategic partnership with a supplier should be created based on the "win-win" partnership principles. However, a win-win partnership must not be based only on price-based competition, but mainly on agreed rules for sharing risks and benefits between partners (Oliver & Delbridge, 2002).

In the initial phase of the product design process, participating suppliers may offer more cost-effective design choices, which help the focal organization to design assessment and on selecting the best components and technologies (Tan et al., 2002). Thus, to reduce uncertainty and facilitate a flexible response, supply chain partners that are able to understand and anticipate better the focal organization and each other's (partner) needs, should develop a strong strategic partnership with suppliers (Malhotra & Mackelprang, 2012). In setting long-term positive relationships of focal organization's and responding to its challenges in a competitive market, the supply chain management is considered an important model that makes the organization capable of dealing with its supply partner effectively (Sambasivan et al., 2013).

Some organizations have extended the traditional supplier selection and certification model to capture supplier involvement (e.g. in product development and continuous improvement efforts), but some supplier partnerships exceed the involvement relationship by including additional activities, such as mutual program goals, investment, commitment, and exchanges of

information, people, opportunities, product/market, technology and assets (Evans & Lindsay, 2002). Therefore, an effective supplier partnership is considered to be a critical component of a leading-edge supply chain (Noble, 1997). The undeniable importance of the strategic supplier partnership obliges organizations to employ/manage it appropriately.

2.2.3.1.1 Supplier Relationship Management

Supplier relationship management refers to the practice and process of interactions with suppliers (Manu & Anitha, 2020) that determine the importance of supply categories for the buyer's needs and create strategies to manage processes in an intelligent way. Increasingly, the relationship between buyer and supplier is developing on the level of a strategic partnership rather than on a competitive level (Loppacher et al., 2011). As a result, the benefits of supplier relationship management for an organization are numerous, including: promoting innovation and joint thinking for doing things better, breaking down functional barriers and functional mindsets, improving supply chain visibility for buyer and seller, removing duplications, sharing assets across supply chain, enhancing forward-looking visibility and giving reliability to all parties and strategic purchasing where two or more organizations combine orders so that each can benefit from volume discounts (Scott et al., 2011).

In this respect, it is worth noting that nowadays the term "supplier" is not only used to refer to suppliers of goods and services, but it has come to mean a strategic partner for the organization that represents the importance of their role in the value chain (Kwon et al., 2010). The significance of the purchasing function increases in the manufacturing process as purchasing and outsourcing costs compose the main part of the total costs, so a proper reflection of the purchasing function makes supply chain perform successfully (Park et al., 2010). Since the aim of supplier relationship management is to collaborate with suppliers and produce a new product more efficiently and competitively, researchers are widely focused on studying four issues that help an organization achieve and manage a strategic supplier relationship: (a) shaping purchasing strategy, (b) supplier selection, (c) supplier management, and (d) collaboration (Park et al., 2010; Talib et al., 2011).

First, shaping purchasing strategies – Park et al. (2010) classified purchasing strategies into two types: (a) competitive approach, which assumes that buyers can obtain goods for the minimum

price as a result of competition between suppliers, and (b) cooperative approach, which assumes that the supplier and buyer build a long-term relationship and cooperate with each other in order to achieve a strategic goal (Chandra & Kumar, 2000).

Second, supplier selection – a good supplier selection process is considered a very important issue for efficient purchasing and manufacturing (Park et al., 2010), which is not easy to achieve. According to them, there are two reasons the process of evaluating and selecting a supplier is complicated: (a) suppliers can be evaluated by more than one criterion, and (b) each supplier has a different specialty and thus a different criterion. Also, Ustun and Demirtas (2008) specified two problems that an organization can be faced with in supplier selection. First, a single-sourcing problem, which aims to satisfy the buyer's needs with one supplier, so the manager has to decide which supplier is best for the buyer's organization. Second, a multiple sourcing problem, which assumes that it is not possible to satisfy the buyer's needs with one supplier, so the manager has to choose more than one supplier.

Third, collaboration – Park et al. (2010) indicated that the collaboration between supplier and buyer can be managed in two ways: (a) by focusing on the collaboration strategy, or (b) by using a supplier relationship management system to execute the collaboration strategy. According to them, the collaboration strategy can be explored based on the contribution phase of developing a new product and production.

Fourth, supplier management – according to Park et al. (2010) a good supplier management requires a supplier evaluation that involves rating a supplier's value by measuring the selected supplier's capability and performance. They noted that the main goal of supplier development is to increase the supplier's competence to fulfill supply needs on a long-term basis. In view of that, in their study Wagner and Krause (2009) used supplier evaluation, feedback and knowledge transfer as activities to describe supplier development.

2.2.3.2 Customer relationship

The customer relationship in the supply chain involves the whole range of practices that an organization employs aimed at managing complaints, improving satisfaction and building long-term relationships with its customers (Tan et al., 1998; Li et al., 2006). Moreover, the customer relationship includes customer satisfaction, complaints handling, long term relationship

establishment with customer, customer service management, customer needs, close partnership with customer and increased customer responsiveness (Talib et al., 2011). The customer relationship is considered an important practice of SCM (Tan et al., 1998), an essential means for organization survival (Wines, 1996), and it allows the organization to differentiate its product from competitors, sustain customer loyalty and extend the value it provides to its customers (Magretta, 1998).

A close relationship among the manufacturer and customers provides the opportunity to improve the accuracy of demand information, reduce product design and production planning time, and avoid any inventory obsolescence of the manufacturer, which makes it more responsive to the needs of its customer (Flynn et al., 2010). Through its connection to product development and innovation (Song & Di Benedetto, 2008), the customer partnership is related directly and indirectly to customer satisfaction (Homburg & Stock, 2004), and it allows manufacturers to create greater value, cut costs and rapidly detect changes in demand (Flynn et al., 2010).

In this respect, to better clarify the importance of customer relationship management, it is worth noting its definition. Chen and Popovich (2003) define customer relationship management as: "[…] a combination of people, processes and technology that seeks to understand a company's customers. It is an integrated approach to managing relationships by focusing on customer retention and relationship development" (p. 672). Thus, customer relationship management is not simply a technological application for marketing, sales and service, but rather when it is executed completely and successfully, a customer-driven, cross-functional, and technology-integrated business management strategy maximizes relationships that incorporate the entire organization (Goldenberg, 2000). In fact, Koh et al. (2007) distinguish the terms "partnering with customer" and "customer relationship". While partnering with customer focuses on either joint venture or long-term supply agreement, customer relationship focuses on relationships management (Koh et al., 2007).

2.2.3.2.1 Importance of using customer relationship

Customer relationship management helps the organization obtain and maintain competitive advantages by segmenting a market based on demographic and behavioral characteristics, advertising effectiveness by customer and market segment, tracking sales trends, forecasting

customer retention and providing feedback as to why customers leave a company, identifying which customers should be the focus of targeted marketing initiatives, and studying which goods and services are purchased together (Evans & Lindsay, 2017).

Nevertheless, the existing literature is focused more on analyzing the supplier partnership rather than the customer relationship. Koh et al. (2007) equate the importance between these two indicating that building a close partnership with customers is equally important to establishing a close partnership with suppliers. Therefore, researchers are increasingly striving to uncover the role and importance of the customer partnership. Wu et al. (2004) showed the importance of increasing the organization's coordination with customers, which could be achieved through developing close partnerships with customers (e.g. potential customer orders could be negotiated and clarified together). The coordination growth with customers may help on reducing late design changes or order changes, which subsequently affect the delivery performance of the organization (Koh et al., 2007). Additionally, customer relations are described through customer satisfaction, customer service and delivery performance (Ulusoy, 2003). According to him, customer satisfaction is determined by meeting customers' requirements and expectations, whereas, customer service means the existence of a solid distribution network and a responsive high-quality after-sales service.

2.2.3.2.2 Customer satisfaction and loyalty

The main goal of SCM is to create customer loyalty and customer satisfaction (Chong et al., 2011), whereas the customer relationship practice enables creating customer satisfaction and loyalty. The relationship between the organization's goals and customers' expectations (Truong et al., 2017), allows the organization to focus on the customers' needs and wants, using information from employees in designing its products and services (Duong et al., 2019). Thus, a close customer relationship enables organizations to be more responsive to customers' needs, creates greater customer loyalty, making them repeat the purchase and willing to pay premium prices for higher quality products (Stalk & Hout, 1990). Indeed, in order to increase long-term customer loyalty, many organizations are competing to establish their connections to new customers as well as to existing customers (Chen & Popovich, 2003).

The evaluation of customer satisfaction involves three indicators: (a) measuring customer perceptions about products or services, (b) discovering areas of improvement, and (c) evaluating trends to estimate the results of product/service changes (Evans & Lindsay, 2002). Only a balanced and integrated management may produce customer satisfaction, which involves several dimensions: the right time, quality, quantity and cost, and the good performance of the organization and all logistics operations (Lin et al., 2005). Whereas, the reasons that lead to customer satisfaction failure are: poor measurement schemes, failure to weigh dimensions appropriately, failure to identify appropriate quality dimensions, lack of comparison with leading competitors, confusing loyalty with satisfaction and failure to measure potential and former customers (Evans & Lindsay, 2017). Thus, by implementing the relationship of marketing principles and using strategic and technology-based applications of customer relationship management, a number of organizations are competing effectively and winning (Chen & Popovich, 2003).

Cooperation with customers includes mutual planning sessions related to the environment, sharing knowledge about a product or the modification of processes, and waste reduction in the logistics process (Vachon & Klassen, 2006). There are three key activities for cooperation with the customer: (a) education of the customer, (b) support of the customer, and (c) joint ventures, for example having the organization work with the customer to establish joint teams (Eltayeb et al., 2011).

2.2.3.3 Information sharing

Information sharing designates the degree to which critical and proprietary information is shared with the supply chain partner, wherein the accuracy, adequacy, timeliness and reliability of the information shared refer to the quality of the information (Monczka et al., 1998; Koh et al., 2007). It may become a source of competitive advantage when available data is shared with other parties within the supply chain (Jones, 1998), as a critical service strategy which establishes an enduring relationship with business customers (Tai & Ho, 2010), and other partners in the supply chain. Information sharing may vary from strategic to tactical in nature and from general market and customer information to information about logistics activities (Mentzer et al., 2000).

There are three types of information sharing among supply chain members, namely strategic, tactical and operative (Rai et al., 2006). Strategic information sharing – occurs when the information used by supply chain partners is in a strategic form that increases the competitive value and further creates a strategic impact of supply chain partners (as a whole) on industry (Wu et al., 2014). Tactical information sharing – allows partners to manage jointly the flow of decision-making activities in a manner that improves the decision quality (Lee & Whang, 2000). Operational information sharing – concerns managing the flow of materials, components, and finished goods in a way that optimizes production-related activities across the supply chain (Wu et al., 2014).

The importance of information sharing as a SCM practice has been highlighted by numerous researchers. It enables a better understanding of the needs of the end customer and hence prepares the organization to respond quickly to market changes (Li et al., 2005). Information sharing between organizations has been recognized as a competitive means that enhances firm performance (Whipple & Russell, 2007), and as an important prerequisite for effective collaboration (Sandberg, 2007). While information sharing improves an organization's performance, the lack of information capability adversely affects the overall competitive position. Thus, it can be said that information sharing is crucial to every functional area by providing efficient operations everywhere along the supply chain (Tan, 2002).

Information shared between trading partners usually involves order status, sales forecasts, shipment tracking, production schedules, product specifications, inventory levels, product descriptions and prices, capacity planning and sales promotions (Li & Lin, 2006; Li et al., 2006). Thus, information sharing among organizations has been classified into four levels/parts – operational, managerial, order and strategic information sharing (Chopra & Meindl, 2016). In this vein, it is worth noting that, (Li et al., 2006) in order to analyze and understand deeply the concept of information sharing, divided it into two aspects: (a) the quantity aspect labeled the "level of information sharing", and (b) the quality aspect labeled the "quality of information sharing". Both of these aspects have been analyzed as independent dimensions in several studies of SCM (e.g. Moberg et al., 2002, Li et al., 2006).

2.2.3.3.1 Level of information sharing

The level of information sharing refers to the degree that critical and proprietary information is communicated to one's supply chain partner (Monczka et al., 1998; Li et al., 2006). It presents the degree to which an organization distributes information about itself (goals, plans, and policies), work-related issues to its employees and its relationship with the general environment (Pfeffer, 2005). Additionally, using empirical analyses, Childerhouse and Towill (2003) reveal that the key to an integrated and effective supply chain is simplifying material flow (streamlining and making highly visible all information flow throughout the chain). Thus, according to Liker and Choi (2004), information sharing can help reduce uncertainty in supply chain process integration and enhance the organization's forecasting and cost reduction capabilities. The service of information sharing is an important component of a manufacturing firm's competitive strategy, which helps organizations in their supply chain environment that often need to deal with complicated inter-organizational processes (Li et al., 2006; Chan & Chan, 2009). Since the results of the information-sharing mechanism in the supply chain process have increased interaction and improved coordination among supply chain participants, it is considered an important means to solving supply chain uncertainty (Chan & Chan, 2009).

It is worth mentioning that, in measuring the impact of information sharing on supply chain collaboration, Inderfurth et al. (2012) have found two positive effects of information sharing within the supply chain: (a) if there is a certain amount of trust in the supply chain, information sharing reduces the inefficiencies resulting from information deficits, and (b) communication can limit out-of-equilibrium behavior with a small impact on the organization's own payoff, but a large impact on the supply chain partner. Additionally, they found that both effects are amplified when communication takes place in an environment that allows the less-informed supply chain party to be punished or to reward the better-informed party. Zhou and Benton (2007) evaluated information sharing in three aspects: (a) information sharing support technology – that includes the hardware and software needed to support information sharing; (b) information content – that refers to the information shared between manufacturers and partners; and (c) information quality – that measures the quality of information shared between manufacturers and partners. They indicated that these three aspects of information sharing measure the technology used to support information sharing, the scope of information shared and the quality of information shared.

2.2.3.3.2 Quality of information sharing

The quality of information sharing presents the degree to which the information exchanged between supply chain partners meets the needs of the organization (Petersen, 1999). It includes such aspects as accuracy, adequacy, timeliness, credibility (Moberg, 2002; Koh et al., 2007) and completeness of information exchanged (Petersen, 1999). Qualitative information sharing allows manufacturers, suppliers and retailers to coordinate inventory-related decisions, synchronize production and delivery, develop a shared understanding of their performance impact and improve forecasts (Lee & Whang, 2000).

Organizations should consider their information as a strategic asset and ensure that it flows with minimum delays and distortions (Li et al., 2006). But the strategic importance of information sharing in SCM depends on such aspects as what information is shared, with whom, when and how it is shared (Holmberg, 2000). There is an intrinsic value in exploring the quality of information sharing since the literature that deals with the information that moves along the supply chain is replete with examples of the dysfunctional effects of delayed/inaccurate information (McAdam & McCormack, 2001). An organization's partner in the supply chain should take into account that the quality of information is affected by the opportunistic behavior and divergent interests of supply chain partners, as well as by the informational asymmetries across the supply chain (Feldmann & Müller, 2003). Therefore, according to Feldmann and Müller (2003), the quality of the shared information has become a critical aspect of effective SCM. Zhou and Benton (2007) identified the existence of nine important characteristics/aspects of information quality: accuracy, timeliness, availability, external connectivity, internal connectivity, completeness, accessibility, relevance and frequently updated information.

2.2.3.4 Lean manufacturing

Lean manufacturing, in essence, may be called "efficient manufacturing". Lean manufacturing seeks to do away with any activities that do not add value through continuous incremental improvements (Abolhassani et al., 2016). It refers to the elimination of anything that does not add value to the production process, such as material flow, inventory and set up time (Gorane & Kant, 2015). In general, the meaning of the term "lean" is "efficient", with Li et al. (2005)

explaining that the term lean "[…] is used to refer to a system that uses less input to produce at a mass production speed, while offering more variety to the end customers. Elimination of waste is a fundamental idea within the lean system" (p. 623). Additionally, lean manufacture is defined by Shah and Ward (2007) as "[…] an integrated socio-technical system whose main objective is to eliminate waste by concurrently reducing or minimizing supplier, customer, and internal variability" (p. 791). Thus, lean manufacturing rests on several basic principles, such as eliminating wasteful activities, pursuing continuous process improvement with employee involvement, minimizing process variability, maintaining a synchronized flow of production through visual signals on the shop floor and delegating duties such as quality inspections and periodic maintenance to line workers (Angelis et al., 2011).

Lean can be reflected in two perspectives: (a) philosophical perspective – which is related to guiding principles or overarching goals, and (b) practical perspective – which consist of a set of management practices, tools or techniques that can be observed directly (Shah & Ward, 2007). In general, lean intensification has two causes: (a) waste elimination activities – eliminating wasteful activities such as worker delays waiting for maintenance men, set up men or inspectors, and (b) setting production time standards – production interruptions from machine breakdowns or parts shortages (Angelis et al., 2011).

Additionally, there does not appear to be an agreed upon definition of the term "lean" in the existing literature. This may bring about difficulties for academics and practitioners (Pettersen, 2009), since the term "lean" comprises a wide variety of practices: quality system, just in time (JIT), work teams, supplier management in an integrated system and cellular manufacturing (Browning & Heath, 2009; Angelis et al., 2011). Therefore, as a result of the unavailability of frameworks that support lean manufacturing implementation processes, only a few organizations have effectively adopted lean manufacturing (Jadhav et al., 2014). While there are an increasing number of organizations that have documented a good implementation of lean manufacturing and enjoyment of its benefits, there is also information from a large number of organizations that report about the failures of having adopted lean manufacturing (Henao et al., 2019).

Since several authors have misunderstood and confused the meanings of the concepts "lean manufacturing" and "agile manufacturing", it is worth clarifying the dissimilarity between them. According to Gunasekaran et al. (2008), "agile manufacturing is a natural development from the original concept of lean manufacturing" (p. 550). Naylor et al. (1999) highlight the distinctive

features between agile and lean manufacturing paradigms of supply chain strategies based on the following definitions: “agility means using market knowledge and a virtual corporation to exploit profitable opportunities in a volatile marketplace. Leanness means developing a value stream to eliminate all waste, including time, and to ensure a level schedule” (p. 108). Additionally, Gunasekaran et al. (2008) emphasize that a requirement for organizations and facilities to become more flexible and to satisfy a fluctuating demand (in terms of variety and volume) led to the concept of “agile” manufacturing as differentiated from the “lean” organization that aims to eliminate waste. In this respect, based on their observations, Gunasekaran and Yusuf (2002) have defined agility in manufacturing as “the capability of an organization, by proactively establishing a virtual manufacturing with an efficient product development system to (i) meet the changing market requirements, (ii) maximize customer service level, and (iii) minimize the cost of goods, with an objective of being competitive in a global market and for an increased chance of long-term survival and profit potential. This must be supported by flexible people, processes and technologies” (p. 1362). Gunasekaran et al. (2008) indicate that the requirement for manufacturing to be able to respond to unique demands will move the balance back to the prior situation, to the introduction of lean production, where manufacturing had to respond to whatever pressures that are imposed upon it, at the risk of compromising on cost, speed and quality. Therefore, agility should not be based only on responsiveness and flexibility, but also on the cost and quality of the goods and services. Accordingly, lean manufacturing, in collaboration with suppliers in the production stage, is fostered with materials at the right time, of the correct quality, and in the right amount (Park et al., 2010), which can stabilize the supply chain particularly through the reduction of defects and engineering change orders (Levy, 1997).

Lean practices have been measured including different aspects, such as: elimination of waste, management of material flows, JIT delivery, JIT capability, managing inventory investment in the chain and reducing inventory (Talib et al., 2011). In the existing literature, lean manufacturing is often presented in one of two forms: (a) material flows management, and (b) re-engineering material flows.

2.2.3.4.1 Material flows management

Effective material flows management in the supply chain is the most authoritative strategic success factor (Chin et al., 2004), which confirms that products are delivered to customers on time. It implies that work-in-process, inventories of raw materials and finished goods can be kept at the lowest level, which reduces significantly the costs of inventory retention (Fredendall & Hill, 2001). Waste elimination shrinks contingency resources such as inventory and standby workers, creating a fragile system, which makes prompt worker responses essential to maintaining production during disruptions such as machine malfunctions or part defects (Angelis et al., 2011). In view of this, Womack and Jones (2003) have identified five fundamental principles of waste elimination: (a) specify what does and does not create value from the customer's perspective; (b) identify all the steps necessary to design, order and produce the product across the whole value stream to highlight non-value-adding waste; (c) make those actions that create value flow without interruption, detours, backflows, waiting or scrap; (d) only make what is pulled by the customers just-in-time; (e) strive for perfection by continually removing successive layers of waste as they are uncovered. Following these principles, internal lean practices may include set-up reduction, short lead times from suppliers, pull production, receiving and other paperwork, streamlining ordering and continuous quality improvement (Li et al., 2005). Organizations that have not made any effort to drive out unnecessary cost, time and other wastes from their internal supply chain run the risk of losing customers (Li et al., 2005) since, if internal and external logistics are in imbalance, the "victims" would be the customers, and eventually the company itself (Chin et al., 2004).

2.2.3.4.2 Re-engineering material flows

Re-engineering material flows may improve supply chain performance. Thus, the control of a material flow lies at the heart of best SCM design and practices (Towill et al., 2000). According to Chin et al. (2004), there are two operational issues that have to be addressed in exploring the re-engineering of material flows: (a) reducing inventory levels and (b) logistics network design.
First, reducing inventory levels through supply chain partners is one of the major driving forces to examining the associated processes and various supply chains (Chin et al., 2004). Chin et al.

(2004) indicate that matching supply and demand accurately is a critical challenge as distorted information from one end of a supply chain to the other can occur at any time, which results in excessive inventory, high costs for corrections, insufficient or excessive capacities, poor product forecasts and poor customer service.

Second, logistics network design – creating an effective logistics network across channel members can minimize annual system-wide costs, including production and purchasing costs, facility costs (handling, storage and fixed costs), inventory holding costs and transportation costs to meet different service levels of requirements (Simchi-Levi et al., 2000). Additionally, Chin et al. (2004) empirically found that, on the re-engineering of material flows, organizations prefer to engage more in internal logistics rather than external logistics of material management, and they called this phenomenon a "doubtful strategy". They claimed that it is extremely important to integrate the upstream suppliers as well as downstream customers in order to achieve an effective supply chain.

2.2.3.5 Postponement strategy

Postponement aims to boost supply chain efficiency by moving product differentiation "at the decoupling point" closer to the end user (Naylor et al., 1999). It is defined as the practice of pushing forward one or more activities or operations (sourcing, manufacturing and delivering) to a much later point in the supply chain (Naylor et al., 1999; Li et al., 2006), and as a strategy that purposely delays the accomplishment of a task, instead of beginning it with inadequate or unreliable information (Yang et al., 2004). Therefore, the basic principle of postponement is to increase the supply chain's flexibility in customer demand by possessing a supply chain that is able to keep materials undifferentiated for as long as possible until receiving orders from customers (Van Hoek et al., 1999; Van Hoek, 2001; Lee, 2004), which is essential where products have a short life cycle (Naylor et al., 1999). Indeed, postponement seeks to "pull" instead of "push" the manufacturing process, and thus move inventory from finished goods to semi-finished goods or raw materials (Yeung et al., 2007).

In general, there are three types of postponement strategies: form, time and place postponement (Naylor et al., 1999, Li et al., 2005). "Form postponement entails delaying activities that determine the form and function of products in the chain until customer orders have been

received. Time postponement means delaying the forward movement of goods until customer orders have been received. Place postponement refers to the positioning of inventories upstream in centralized manufacturing or distribution operations, to postpone the forward or downward movement of goods" (Li et al., 2005, p. 623). The combination of these tree postponement area "customization of products (form postponement) is delayed until goods are ordered (time postponement) and have reached the international distribution chain, frequently followed by direct delivery to retailers or customers (place postponement)" allows organizations to separate the customization products from basic manufacturing of standard products or generic modules (Van Hoek et al., 1998, p. 33).

Postponement strategy as a flexible mechanism helps an organization on maximizing expected profits and achieving its objective (Dong et al., 2019), which contributes to its competitiveness by simultaneously enhancing customer service and reducing cost levels (Van Hoek et al., 1999). Accordingly, Dong et al. (2019) show the difference between two decision postponement strategies: (a) production/quantity postponement – where the production postponement strategy has to postpone quantity decisions after price decisions till the supply uncertainty is revealed, and (b) price postponement – where the price postponement strategy has to postpone price decisions after quantity decisions till the demand uncertainty is revealed. Thus, based on these two postponement decisions strategies, we can study the organization's price decisions and optimal production under supply and demand risk, and the effects of postponement strategies on production/quality and price decisions (Dong et al., 2019).

2.2.3.5.1 Advantages of postponement strategy

Both the principle of just in time (JIT) and the philosophy of postponement emphasize procurement strategies to diminish upstream supply chain risk (Mukherjee, 2017). Thus according to Mukherjee (2017), the advantage of an effective implementation postponement strategy is that it could improve quality, reduce cost of product and save time. In order to satisfy customer needs, the option to postpone, or delay, the point of product differentiation has been suggested. However, it has become a challenge for organizations to restructure their supply chain and to transform products according to unique customer specifications in terms of quality, variety, delivery (both reliable and fast) and competitive pricing (Van Hoek et al., 1999). In this

vein, Pagh and Cooper (1998) answered the question of when organizations should pursue the postponement strategy. According to them, the adoption of a postponement strategy may be appropriate in the following conditions: (a) markets characterized by low delivery frequency, high demand uncertainty and long delivery time; (b) products with high specialization, high monetary density and with a wide range; and (c) manufacturing or logistics systems with no need for special knowledge and small economies of scales.

The role of postponement as an approach is to help the organization keep the minimum inventory levels by minimizing the risk of erroneous forecasting and delaying the point in time when a product assumes its identity (Chin et al., 2004). Thus, postponing the decoupling point reduces the risk of holding too much stock of products that are not required and of being out of stock for long periods at the retailer (Naylor et al., 1999). As the lead time increases, in traditional supply chain, variety brings more uncertainties and more obsolescence risks due to push-type supply chain (Van Hoek, 2001). But, following the postponement strategy enables the integration of push-type and pull-type supply chain and offers it as an alternative way to tackle such issues with product differentiation or delayed product finalization (Mukherjee, 2017). It is worth noting that, the role of postponement began to be understood when production philosophy changed from mass production to mass customization (Yeung et al., 2007), and it is mainly considered as a pragmatic means to move towards mass customization. Where, “mass customization combines economy of scale and economy of scope to enhance supply chain surplus with demand aggregation” (Mukherjee, 2017, p. 59).

2.2.3.6 Summary of SCM practices

Supply chain management practices enable an organization to work efficiently in all its supply chain process from the raw material – production process – sell products to customer – after seals services. Concepts such as strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy have been around in the literature for a long time. However, only in recent times have they been used as supply chain practices/strategies.

Indeed, to produce the results of this study five supply chain practices were selected, namely: strategic supplier partnership, customer relationship, information sharing, lean manufacturing, and postponement strategy. These practices were chosen based on two elements: (a) their strategic role in organizational performance, and (b) their fit with other variables explored in the study. By involving these practices this study has covered four dimensions of the supply chain: upstream (strategic supplier partnership) and downstream (customer relationship) sides of a supply chain, information flow through a supply chain (information sharing), and internal supply chain processes (lean manufacturing and postponement strategy).

Adjusting the organization's SCM activities with its competitive strategy may help the organization provide a successful competition into the competitive market. Moreover, an estimated five SCM practices exist that may enable an organization to realize effectively its operations, achieve competitive advantages and improve organizational performance in the market.

First, the focal organization should select a suitable supplier in order to create strategic cooperation with it. Their cooperation should not be based only on cost reduction, but also on sharing risks, responsibility and benefits between partners. A close management with supply chain partners may increase the organization's ability to efficiently fulfill customer needs.

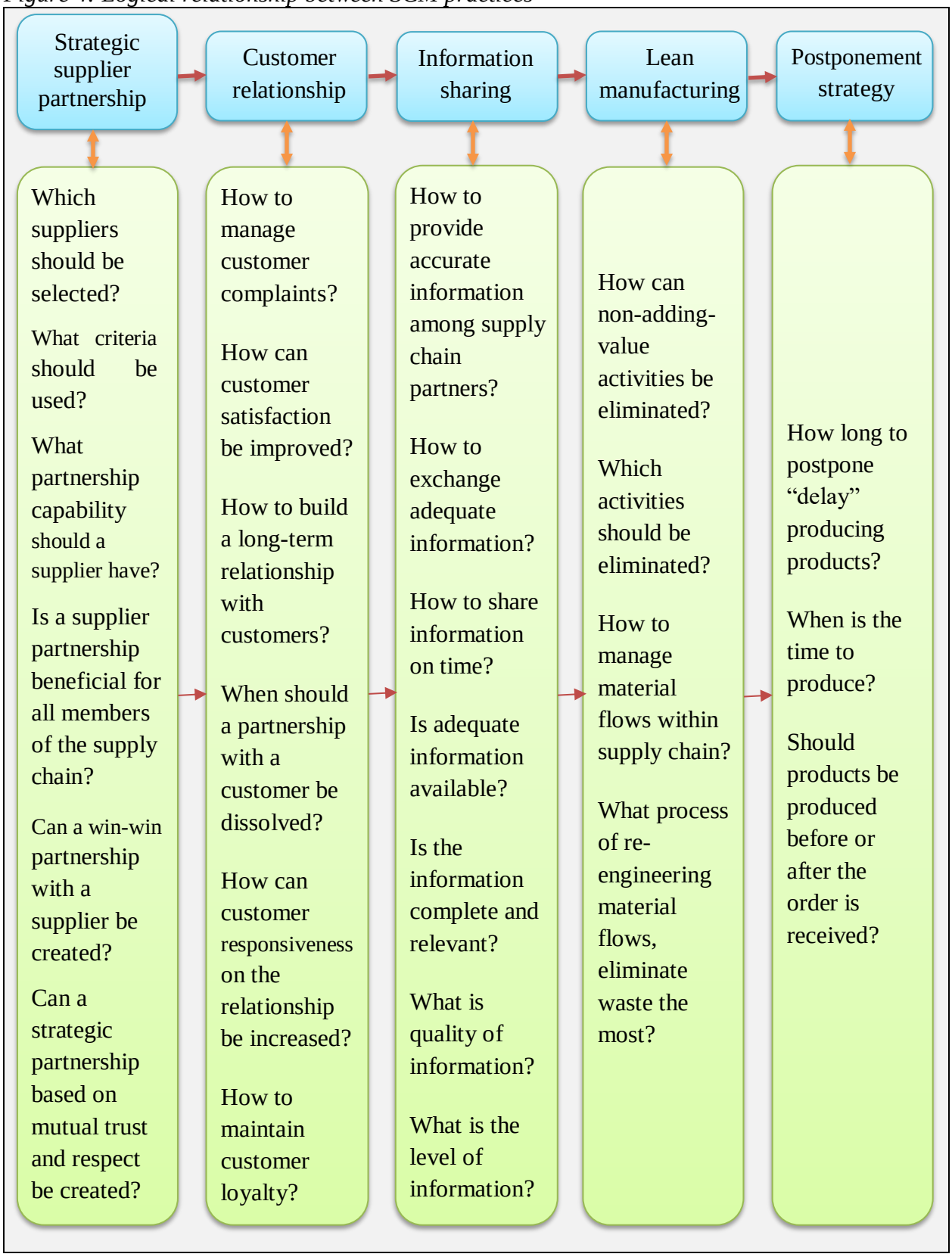
Second, the customer relationship has the same value in achieving competitive advantage as the strategic supply partnership. Therefore, the manufacture organization should pay special attention to creating long-term relationships with customers, by satisfying their needs and making them loyal to its products. This is a precondition that allows an organization to maintain its customers, add new customers and defend itself from competitors' attacks.

Third, for a successful implementation of the two previous practices the focal organization has to provide and share adequate information with its supply chain partners. Thus, the quality and level of information sharing allows the organization to maintain the partnership with its supplier and customer for a long time, to operate efficiently by facilitating a good implementation of lean manufacturing, and to postpone the production of its products until the order has been received. Indeed, the information sharing practice is the heart of the supply chain process, which allocates the blood (information) through all partners in the supply chain.

Fourth, to operate efficiently the focal organization should eliminate all waste that is not adding value in the producing process. It has to manage and re-engineer the material flows in the supply chain process as it is required, which enables it to achieve a competitive advantage.

Five, the traditional logic that the focal organization has to produce its products, leave its products in stock for a long time and wait until the demand has arrived for those products, is waning as it is no longer helping contemporary organizations' operations. Therefore, the focal organization should delay producing its product until the demand has been received in the organization for that specific product. This is characteristic especially of those organizations that produce goods that have a short life cycle. Recently, due to technological developments, the life cycle of products has become shorter since new products increasingly enter the competitive market, making existing products outdated. Consequently, it may be said with confidence that product life cycle can no longer be precisely predictable. The practices used in the current study have a logical consistency, as presented in figure 4.

Figure 4: Logical relationship between SCM practices



Source: author

2.3 Competitive strategy

In the existing strategic literature, competitive strategy is widely considered an important means to facilitating an organization's efforts to achieve dominance in the competitive market battle. It is focused on illuminating the processes regarding how an organization can develop a competitive advantage in the industry in relation to its competitors (Danso et al., 2019). Thus, the aim of using competitive strategy has remained the same since its initial appearance in the scientific literature, which is perceived as an important instrument that enables an organization to achieve a competitive advantage and to outperform its rivals (Porter, 1980). Furthermore, it is an integrated and harmonized set of commitments and activities, which are designed to exploit the main organizational competencies and gain a competitive advantage (Liao, 2005). In this respect, it is worth noting that competitive strategy is a concept that covers a lot of activities and processes that should be realized to make the organization successful in achieving an organizational competitive advantage in the competitive market. In view of that, Lapersonne (2017) defined competitive strategy "[…] by the activities of the firm's value chain that have been chosen to be pursued to sustain a competitive advantage. Consequently, these activities chosen by the firm as "strategic" should be reflected in the firm's value proposition in terms of value attributes perceived by customers" (p. 33).

Competitive strategy, in essence, relates the organization to its industry/environment (Porter, 1980). Increasing organizational performance requires an integration of two main approaches: (a) industrial organization view (industry/environment level) and (b) resource-based view (organizational level) (Islami et al., 2020b). Additionally, David and David (2017) claim that the effective integration of both external and internal factors allows an organization to attain and retain a competitive advantage. Thus, it can be said with reason that industry structure has a powerful impact on determining the competitive strategy that an organization has to pursue as an adequate response to external/industry forces.

An appropriate process of competitive strategy formulation requires identifying two issues: (a) the structure and attractiveness of the industry and (b) deployment/position of the organization in that industry. At this point, strategist decision-makers have to answer the questions: how the strategy will be linked with the attractiveness of the industry? And how the strategy will deploy the organization into the competitive industry? (Islami et al., 2020b). Related to the first

question, the answer can be provided by analyzing the industry factors. There are five forces that can determine industry competition and its attractiveness, such as: industry competitors (rivalry among existing firms), potential entrants (threat of new entrants), suppliers (bargaining power of suppliers), buyers (bargaining power of buyers), and substitutes (threat of substitute products or services) (Porter, 1980). Whereas, to answer the second question the impact of each of these five industry forces on a certain industry should be investigated. Based on the answers of these two questions a suitable competitive strategy will be shaped that deploys the organization properly in a specific industry, enabling it to achieve a competitive advantage relative to its rivals.

Likewise, Tanwar (2013) specified that: "competitive strategies involve taking offensive or defensive actions to create a defendable position in the industry. Generic strategies can help the organization to cope with the five competitive forces in the industry and do better than other organizations in the industry" (p. 11). Indeed, a competitive strategy serves as a pathway that an organization should pursue in order to achieve its goal, by responding effectively to the industry factors, which enables it to create value and achieve a competitive advantage in that industry. Equally, Porter (1985) highlighted that: "competitive advantage grows fundamentally out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it. Value is what customers are willing to pay, and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that more than offset a higher price. There are two basic types of competitive advantage: cost leadership and differentiation" (p. 3). Competitive strategy is not a new concept. It has been a part of the literature for about 60 years, since Ansoff published his work entitled "Corporate Strategy" in 1965 (Ansoff, 1965). Since then, competitive strategy typologies have been the focus of strategic authors and have been developed continuously through the years.

2.3.1 Competitive strategy typologies

In essence, all typologies of competitive strategies roughly have a common origin and have the same goal, i.e. to achieve a competitive advantage for the organization. The concept of competitive strategy is shared widely in literature predominantly since Porter (1980; 1985) presented his perspective for competitive strategy, classifying competitive strategies into three generic strategic approaches: overall cost leadership, differentiation and focus, which was

partially based on Miles, Snow, Meyer and Coleman's (1978) strategic typology (prospectors, defenders, analyzers and reactor). Whereas, Schuler and Jackson (1987), by grounding their work mainly on Porter's generic strategies, categorized competitive strategy into three business strategy types, slightly different from Porter, namely: innovation, quality enhancement and cost reduction. Hence, later studies in the field of competitive strategy were predominantly based on these three typologies, i.e. on investigating, analyzing and developing them. Therefore, it is important to briefly clarify each one of these three typologies given their importance to the overall strategic orientation.

First, Miles et al. (1978) typology highlights that there are four strategic types of organizations, where three of them (defenders, prospectors and analyzers), in respect to their environment, can be called proactive strategies. Whereas the fourth type, they called "the reactor", which is a form of strategic "failure" in which an inconsistency exists among its structure, strategy, technology and process. Defender - invests a great deal of resources in solving its engineering problem, which tries to find a way to produce and distribute goods or services as efficiently as possible, by developing a single core technology that is highly cost-efficient. Prospector – invests seriously in individuals and groups who scan the environment for potential opportunities, and which are frequently the creators of change in their respective industries. Analyzer – invests in finding a way to locate and exploit new product and market opportunities while simultaneously maintaining a firm core of traditional products and customers. Reactor – reveals a pattern of adaptation to its environment that is both inconsistent and unstable; "this type lacks a set of response mechanisms which it can consistently put into effect when faced with a changing environment" (Miles et al., 1978, p. 557).

Second, Porter's (1980) typology identifies three generic strategy approaches that aim to outperform the organization's rivals in the industry, pursuing: overall cost leadership, differentiation and focus. Overall cost leadership – focuses on how an organization can operate efficiently, which enables it to reduce overall cost production and reach a broader customer segment. Differentiation – invests to create a product that is perceived as unique by customers and for which they are willing to pay a premium price in order to satisfy their specific needs. Focus – aims to segment the market and use any of the previous strategies (low-cost or differentiation) in that specific segment that is not occupied by competitors.

Third, Schuler and Jackson's (1987) typology, which emerged as a result of analyzing Porter's strategic discussions, identifies three competitive strategies that organizations can use to gain a competitive advantage: innovation, quality enhancement and cost reduction. Innovation strategy – is used to develop products or services that are different from those of competitors, i.e. it mainly focuses on offering something new and different. Quality enhancement strategy – focuses on enhancing product or service quality. Cost reduction strategy – organizations typically attempt to gain a competitive advantage by being the lowest cost producer.

Three of these competitive strategy typologies were and still are the focal point in many strategic studies, but Porter's typology prevails in the strategic area compared to other typologies. Therefore, this study employs Porter's typology for further examination.

2.3.2 Selecting the competitive strategy

Why Porter's typology? Let's begin with a statement: "Since the early 1980's, Michael Porter's strategic typology has been one of the most widely accepted methods of discussing, categorizing and selecting company strategies" (Islami et al., 2020a, p. 2). The general aim of Porter's generic strategies is to make an organization achieve a competitive advantage and outperform its rivals. The focal point of analyzing in order to adopt a generic strategy is the external setting, more specifically the industry environment (Islami et al., 2020b). Thus, Porter's typology is considered an important part of management theories, which explains the organization's behavior compared to its rivals in a certain industry (Islami et al., 2020a).

In this study, the organization's strategic orientation is going to be investigated using the competitive strategies according to Porter's typology. The reasons this typology is chosen are the same as Islami et al. (2020a): (a) Porter's framework of generic strategies is inherently tied to firm performance, and (b) Porter's framework overlaps with other typologies. But, it is worth clarifying that this study is going to use Porter's typology partially, i.e. it will only use two of three generic strategies: cost leadership strategy and differentiation strategy as the most important competitive strategies analyzed by different authors. Also, it will use a third strategy termed "integrated strategy", which is characteristic of the organizations that use combined elements of both strategies (cost leadership and differentiation strategy) simultaneously.

Additionally, this study uses two dimensions of competitive strategies proposed by Porter (1985), namely overall cost leadership and differentiation strategy, and one dimension used by Murray (1988), namely "integrated strategy". As a result, three dimensions will be used to present competitive strategy. These dimensions have continuously been used by numerous authors to define competitive strategy, overall cost leadership and differentiation strategy (e.g. Yamin et al., 1999; Soni & Kodali, 2011; Huo et al., 2014; Jayaram et al., 2014; Danso et al., 2019; Islami et al., 2020a), and integrated strategy (e.g. Yamin et al., 1999; Spanos et al., 2004; Acquaah, 2007; Danso et al., 2019).

For instance, Li and Li (2008) indicated that organizations can achieve a competitive advantage by relying on one of two fundamental sources of competitive advantage: cost leadership or differentiation strategy. Banker et al. (2014) stated that "Porter (1980) presents a framework describing two generic strategies that a firm can use to achieve competitive advantage: cost leadership and differentiation" (p. 873). Zehir et al. (2015) have suggested that organizations operating under the pressure of globalization find it more difficult to outperform rivals. Therefore, to perform better, Porter has created two basic competitive advantages: low cost and differentiation strategies. Moreover, Acquaah (2007) pointed out that an organization can use both strategies, overall cost leadership and differentiation strategy, simultaneously to outperform its rivals.

On creating a framework that reflects the nature of strategic priorities, Porter (1980, 1985) argued that in order to compete effectively an organization must derive its competitive advantage in one of two ways: (a) overall cost leadership – which allows the organization to compete with low-cost products and offer them at a lower price than competitors, or (b) product differentiation – in order to provide customer satisfaction from factors such as superior quality, delivery, product flexibility and product design. Whereas, according to Porter (1996) the organization that does not formulate a clear strategy intent on choosing low-cost orientation or differentiation will find itself in a poor performance situation, referenced as "stuck-in-the-middle", which in this study is called "integrated strategy" and is explained and supported against Porter's arguments for this kind of strategy.

We should keep in mind that, regardless of strategy type, each of them involves two fundamental parts: (a) attributes of the value proposition that could receive a cost leadership or differentiation approach, and (b) activities in the value chain that support the value proposition characteristics of

the strategy (Lapersonne, 2017). Thus, to understand the competitive advantage concept, it needs to be decomposed into two fundamental forms: lower cost than rivals (cost leadership strategy), or the ability to differentiate and command a premium price that exceeds the extra cost of doing so (differentiation strategy) (Porter, 1991). Finally, the current study follows in the footsteps of Acquaah (2007) and Danso et al. (2019) in measuring competitive strategy by involving cost leadership strategy, differentiation strategy and integrated strategy.

2.3.2.1 Cost leadership strategy

Cost leadership strategy gives priority to the production of standardized products at a very low per-unit cost, which is designed for price sensitive consumers (David & David, 2017). "Porter's generic strategy of cost leadership focuses on gaining competitive advantage by having the lowest costs and cost structure in the industry" (Akan et al., 2006, p. 48). Thus, the provider's foremost strategic objective of the cost leadership is to operate on explicitly lower costs than rivals although not necessarily the lowest possible cost (Thompson et al., 2018). In this vein, it is worth mentioning that pursuing a cost leadership strategy should not be perceived as if a product/service offered is inferior, but that it has the same qualities as competitors, but with a lower cost/price (Pulaj, 2014).

The orientation of organizations that pursue a cost leadership strategy aims to operate efficiently its value chain activities, which enables it to reduce the production cost and exceed the current market share. This is possible when the organization has a low-cost leadership mindset, low-cost manufacturing with quick delivery and replacement and a workforce committed to efficiency (Akan et al., 2006). "A firm which finds and exploits all sources of cost advantage and aims at becoming a low cost producer in the industry is said to pursue a sustainable cost leadership strategy" (Tanwar, 2013, p. 11). Thus, according to Lapersonne (2017), an organization that decides to pursue a low-cost strategic approach should offer a simple and limited value proposition in order to achieve the lowest cost in the industry. In addition, it must be prepared to terminate or subcontract activities by which they do not have a cost advantage to other organizations that do so (Akan et al., 2006).

It is worth clarifying the process by which an organization can realize a cost leadership strategy. Several authors point out the methods that lead an organization toward a cost leadership strategy.

For example, Akan et al. (2006) indicate several ways to achieve cost leadership strategy, namely: economies of scale, mass distribution, mass production, technology, input cost, product design, access to raw materials, capacity utilization of resources and (Tanwar, 2013) experience curve effects. Using economies of scale and learning effect as low-cost instruments may increase the exploitation of operational efficiency due to a simpler value chain activity, which will result in an overall low-cost (Lapersonne, 2017). Additionally, an organization pursues cost leadership strategy in order to increase market share based on creating a low-cost position compared to its rivals and using different resource allocation methods, such as: large-scale facilities, cost minimization, process improvements, benchmarking, TQM and overhead control (Banker et al., 2014). Therefore, it attempts to offer a high volume, no-frills, standard product at the most competitive price to the customer, which enables it to create a superior financial performance (Li & Li, 2008).

A successful cost leadership strategy usually infiltrates the entire organization, as it is evidenced by a high efficiency, low overhead, limited perks, intensive screening of budget requests, intolerance of waste, rewards linked to cost containment, wide spans of control and broad employee participation in cost control efforts (David & David, 2017). Lapersonne (2017) indicated that "A cost leadership player could also achieve a lower cost by economies of scope, learning effects and preferential access. Economies of scope allow sharing fixed manufacturing cost across several product lines, lowering the overall unitary production cost by a higher cost dilution effect. Learning effect refers to the experience that firms acquire before other players, improving operational efficiency by learning best managerial practice, such as reducing machine setup time and reducing product defects or process errors. Preferential access to raw material and distribution channel could offer a cost advantage by having access to resources at a lower price than other competitors" (p. 37).

In order to be successful, the cost leadership strategy requires considerable market share advantages or preferential access to raw materials, labor, components, information, or some other important input, because without one or more of these advantages, the strategy can easily be imitated by peers (Tanwar, 2013). According to Tanwar (2013), maintaining this strategy requires a continuous effort for cost reduction in all aspects of the business, including distribution, promotion and other vital operations. An effective implementation of cost leadership strategy is related to several activities: process engineering skills, sustained access to

inexpensive capital, products designed for ease of manufacture, close supervision of labor, incentives based on quantitative targets, tight cost control, and always ensure that the costs are kept at the minimum possible level (Tanwar, 2013). Furthermore, cost leaders may take a number of cost saving actions, including tightly controlling overhead and production costs, building efficient scale facilities, and monitoring costs to build their relatively standardized products that offer features acceptable to many customers at the lowest competitive price (Akan et al., 2006). Thus, in the cost leadership viewpoint, an organization must produce its product using the lowest amount of capital and the lowest possible cost of scale (Dombrowski et al., 2018).

2.3.2.1.1 Effects of using cost leadership strategy

By using cost leadership strategy an organization increases its chances of improving performance (Islami et al., 2020a). As the positive effects of using a cost leadership strategy can easily be found in the literature, the focus in this part will be on the negative effects for an organization of pursuing this kind of competitive strategy for a long period of time.

Pursuing cost leadership strategy cannot provide a competitive advantage for an organization endlessly, as a result of imitation by competitors. Barney (2002) explains this phenomenon as: "[…] if cost-leadership strategies can be implemented by numerous firms in an industry, or if no firms face a cost disadvantage in imitating a cost-leadership strategy, then being a cost leader does not generate a sustained competitive advantage for a firm" (p. 251). Additionally, as it is based mainly on operation efficiencies, it is easily imitable and the superior performance achieved through such a strategy dissipates over time (Porter, 2001), thus the first movers do not benefit a durable advantage (Banker et al., 2014). Therefore, strategists should be careful on their decision to pursue cost leadership strategy, as it may not provide a permanent competitive advantage for companies that use low cost or best value (Islami et al., 2020a). According to them, an organization should adopt a cost leadership strategy that enables it to achieve a competitive advantage and which is very difficult to copy or match by competitors. Here, if rivals can imitate the low-cost method relatively easily or it is inexpensive, a low cost advantage will not last long enough to yield a valuable edge in the marketplace (David & David, 2017).

For a cost leadership strategy to be successful in improving an organization's performance, it must fulfill two conditions: (a) perform value chain activities more efficiently than competitors

and controlling factors that drive costs in value chain activities, and (b) revamp the firm's overall value chain activities, which eliminate or bypass high cost-producing activities (David & David, 2017). However, competitors could imitate both of these stages. Thus, before making a decision to adopt cost leadership strategy strategists should analyze rivals and their capacity to react in the same way, which would make the strategy inefficient (Islami et al., 2020a). According to Islami et al. (2020a), using cost leadership strategy constantly is mindful of technological cost-saving breakthroughs or other value chain progress, in order to defend from rivals that could erode or destroy the firm's competitive advantage.

In this respect, it is worth noting that several conditions exist that make pursuing a cost leadership strategy an effective tool to use by organizations, such as: when price competition among rival sellers is especially vigorous; when the products of rival sellers are essentially identical and supplies are readily available from any of several eager sellers; when most buyers use the product in the same ways; when there are few ways to achieve product differentiation that have value to buyers; when buyers incur low costs in switching their purchases from one seller to another; when industry newcomers use introductory low prices to attract buyers and build a customer base; when buyers are large and have significant power to bargain down prices (David and David, 2017).

In addition to this, Islami et al. (2020a) explain that pursuing a cost leadership strategy might be a good strategy for a short time but in the long term, it can destroy the industry where the organization operates as a result of continuous price decreasing. Thus, by pursuing a cost leadership strategy an organization may take the first step that leads its industry to destruction in the long-term. When one organization decreases the price of its product, competitors may do the same, i.e. decrease the price for their goods too. Thus, cost leadership strategy does not bring new consumers into the industry in the long-term, but only causes movements of the same consumers from one organization to another. As a result of these movements, the zero-sum effect is created (one customer more for one firm means one customer less for another firm that operates in the same industry, consequently, there is customer movement between firms without bringing new clients into the industry). In view of that, organizations are no longer competing with strategies but with operational effectiveness, on who can do the same thing better, and not who can satisfy the customer's need better. This business mentality leads to the whole industry's destruction.

It is worth mentioning that the cost leadership trap, which according to Lapersonne (2017), is the situation when a player has reduced their offer to a very basic low quality in order to achieve the lowest cost and offer the lowest price. As a result, its customers' segment may be attracted by a rival's offer which is capable of offering something for the similar or close price as a better value proposition with more added value. Subsequently, this firm will fall into the trap of low-cost specialization and will not have developed the necessary competence and resources to aggregate differentiation value to its offer.

2.3.2.2 Differentiation strategy

"The differentiation strategy appeals to a sophisticated or knowledgeable consumer interested in a unique quality product or service and willing to pay a higher price for these non-standardized products" (Akan et al., 2006, p. 47). Additionally, an organization adopts a differentiation strategy when it strives to be unique in its industry (or to be perceived as unique) through some dimensions of its product/service that customers value widely (Animesh, et al., 2011; Tanwar, 2013). Differentiation strategy implies the development of distinct products or services (Porter, 1985). The uniqueness concept should cover several dimensions that may be perceived as valuable by customers, given that "differentiation strategies require companies to provide products to suit customers' particular needs or product specifications relating to quality, delivery or the products' physical characteristics" (Chenhall & Langfield-Smith, 1998, p. 245), whereas the quality may be real or perceived, based on brand name, fashion or image (Akan et al., 2006). Thus, an organization may charge a premium price to customers for its unique products, which distinctness can be associated with product design, the technology used, the firm's brand image, product features or customer service (Tanwar, 2013).

Therefore, pursuing a differentiation strategy allows an organization to earn above the average returns of the specific industry, which is derived from brand loyalty and lower customer sensitivity to price (Tanwar, 2013). Thus, the positive relationship between differentiation strategy and organization performance or competitive advantages refers to the higher incomes that it proceeds because of quality, mark trust and the perception that clients have for the organization's product (Porter, 1985). The differentiation strategy concept includes in itself a unique value chain and a unique value proposition. In this vein, Lapersonne (2017) points out

that choosing differentiation strategy with a value proposition that emphasizes uniqueness on certain attributes involves a higher cost due to the aggregation of value on certain activities of the value chain. And all this process will require customers to pay a higher price. But, to avoid this phenomenon Lapersonne (2017) suggests that the configuration of the differentiated attributes of its value proposition has to once be defined, and then the organization can exploit the operational efficiency of its value chain activity.

It is worth clarifying how an organization can realize a differentiation strategy. There are several authors that show different methods that lead an organization toward a differentiation strategy. For example, Islami et al. (2020b) indicate that pursuing a differentiation strategy means the integration of three environment levels: (a) market level – creating a unique product or offering a unique service based on consumer needs, (b) organizational level – finding a unique way of doing supply chain activities, and (c) offering level or generic strategies – consequently offering a product or service in a unique way in the market. A successful differentiation means greater product flexibility, less maintenance, greater compatibility, improved service, lower costs, greater convenience or more features (David & David, 2017). The ways that managers can enhance their organizational differentiation are based on several value drivers, namely: creating product features and performance attributes that appeal to a wide range of buyers; striving for innovation and technological advances; improving customer service or adding extra services; pursuing continuous quality improvement; investing in production-related R&D activities; seeking out high-quality inputs; increasing marketing and brand-building activities; and emphasizing human resource management activities that improve the skills, expertise and knowledge of company personnel (Thompson et al., 2018).

Differentiation strategy can be especially effective under the following conditions: when there are many ways to differentiate the product or service and many buyers perceive these differences as having value; when few rival firms are following a similar differentiation approach; when buyer needs and uses are diverse; when technological change is fast paced and competition revolves around rapidly evolving product features (David & David, 2017). Hence, a differentiation strategy is effectively implemented when the organization provides unique or superior value to the customer through product quality, features, or after-sale support and service (Akan et al., 2006).

2.3.2.2.1 Effects of using differentiation strategy

An organization may achieve a sustainable competitive advantage by pursuing a differentiation strategy (Porter, 1996; Kim & Mauborgne, 2005; Banker et al., 2014), which can also increase the firm's performance (Islami et al., 2020a).

It is worth mentioning that, despite the advantages of using differentiation strategy, Lapersonne (2017) has identified its limitations. One of the disadvantages of a differentiation strategy is the degree of uniqueness, where the concept of differentiation is completely focused on the idea of its unique offer compared to other competitors' offers. "Uniqueness is a complex concept as it depends on the perception and needs of customers, and each customer tends to have their own particular perception and needs that could vary in time" (Lapersonne, 2017, p. 35). Thus, even though product differentiating attributes may exist, differentiation based on absolute uniqueness is more of a theoretical concept than a practical reality (Lapersonne, 2017). Furthermore, given the increasing number of players in most of the markets, offers tend to be similar and equivalent in terms of their whole objective and purpose of attending to a central customer's need (Lapersonne, 2017). It is worth noting that, the differentiation product or service is an expression of the creativity of an individual or a group in a firm, which means that the risk of replicating differentiation depends on a firm's creative capacity in finding ways that make the product unique (Barney & Hesterly, 2018). Therefore, a differentiation strategy does not defend the firm strategy from imitation by competitors forever, as David and David (2017) wrote: that differentiation does not guarantee a competitive advantage, especially if standard products sufficiently meet customer needs or if rapid imitation by competitors is possible.

In this part, the focus is on presenting the benefits of using a differentiation strategy. Thus, existing literature shows that by pursuing a differentiation strategy two kinds of advantages can be realized in two environment levels: (a) organizational level and (b) industry level.

Organizational level effects – by using differentiation strategy organizations may: (a) increase organizational profitability and (b) serve as a barrier for new entrants, which makes incumbent organizations more sustainable in the market and extends their profitability. First, Rothaermel (2016) indicated that differentiation strategy enables the creation of products/services that are perceived as unique and requires a premium price from consumers, which provides greater profit for the organization. Thus, by pursuing a differentiation strategy organizations can attain a

superior profit, which stems from the consumer's willingness to pay the premium price for the unique product or service offered by the organization (Islami et al., 2020b). Second, offering a unique product/service as a result of pursuing a differentiation strategy may serve as an obstacle for new entrants in the industry, increasing the profitability of incumbents (Islami et al., 2019). Additionally, explaining how pursuing a differentiation strategy hinders new entrants from getting into the industry and provides convenience for incumbent firms, Lapersonne (2017) indicated two kinds of barriers exist for new entrants. On the one hand, by offering unique product/service organizations ensure high customer loyalty (Porter, 1985), less sensitive to price, and reduce the bargaining power of customers as there are no other offers that enable comparison (Lapersonne, 2017). On the other hand, the resource-based view explains that the unique attributes of the offer that are difficult to be imitated by rivals serves as a barrier for new entrants as well (Barney & Hesterly, 2018). When an organization pursues a differentiation strategy that may serve as a barrier for rivals and new entrants in the industry, it allows it to maintain a superior margin, even if it has to manage a high cost (Lapersonne, 2017).

Industry level effects – an organization that pursues a differentiation strategy can increase its performance in the short and long term (Islami et al., 2020a). In the short-term, a differentiation strategy provides profit for the organization as a result of the competitive advantage that it has achieved by producing a unique product/service with a higher quality than competitors. In the long-term period, pursuing a differentiation strategy provides an added value in all industry. As a result of strategy imitation by rivals, a higher quality of product/service is created, which leads the industry to a higher level of quality. In order to analyze closely how this phenomenon occurs, we must answer the question: how differentiation strategy works and what advantages it can bring in the industry? It can be explained as: the main objective of the organization is to increase its performance in time, but the existence of numerous competitors in the market makes that hard to achieve. Therefore, an organization has to achieve its objective through product/service differentiation, trying to create unique products/services in order to be attractive for consumers. This uniqueness can be realized by increasing the existing products/services' values or creating new and better products/services and enter them into the market. Both of these ways set a higher value of products/services in the industry. For a better understanding of the importance of differentiation strategy two levels of economic priorities can be used, i.e. winning priorities and qualifying priorities, which were explained by Islami et al. (2020b). According to them, "The

winning priorities mean the added value of products that help firms to achieve competitive advantage in the market. Whereas, qualifying priorities mean the standard value of products/services that are operating in the market. Thus, if a firm tries to enter into the existing market, it should create its products/services at the same level value with existing products/services. According to these two economic concepts, by pursuing a differentiation strategy firms create the winning priorities allowing them to dominate in a competitive market. In the long-term, competitors aiming to compete in a competitive market should copy the incumbent firms' strategy to create the products/services at the same value" (p. 161). Thus, in the long-term, winning priorities will be transformed into qualifying priorities, and as a result, the overall quality of products is increased (Islami et al., 2020a).

Similar to the cost leadership trap, an organization can be faced with the differentiation trap as well, which has the same logic, but in the opposite direction. "The differentiation trap is characterized by a player that focused all its resources in differentiating its offer from rivals, which resulted in a higher cost than the market average and in an offer already extremely differentiated with a high degree of uniqueness. This player has a loyal customer segment that is willing to pay a higher price because it appreciates and recognizes the added value of its offer. Also, the targeted customer segment is sufficiently relevant to sustain the profitability of the firm and compensate its higher operative cost. However, if a change occurs in the behavior of its customers due to an increase of rivals that are capable of offering something similar at a cheaper price, then this competitor could lose a substantial part of its customer base. In this case, the firm will not have developed the competence of keeping a lower cost by reducing the cost of its offer" (Lapersonne, 2017, p. 38).

2.3.2.3 Integrated low-cost and differentiation strategy "Integrated strategy"

An integration of cost leadership and differentiation strategy creates value by optimizing the trade-off between product cost and quality (Dostaler & Flouris, 2006). However, there has been a heated debate over whether it is profitable to pursue an integrated strategy.

Both generic strategies are referenced in the existing literature as successful tools that improve competitive advantage and organizational performance. Since Porter (1985) has made the distinction between cost leadership – based on lower cost and the differentiation strategy - based

on unique products, as two basic strategies for satisfying customer requirements, a legitimate question has emerged: can an organization pursue cost leadership and differentiation strategies simultaneously in order to increase its organizational performance? In addition, Islami et al. (2020a) highlighted that, in this respect, it is logical to raise two questions: can a firm simultaneously implement both strategies? And, since each strategy can separately improve firm performance, wouldn't it be better for the firm to implement both simultaneously? They found that the answers to these two questions were not congruous among strategic authors.

On the one hand, this prospect was initially dropped by Porter (1985), who was categorically against the simultaneous pursuit of both these strategies, as they are fundamentally different approaches to creating and sustaining a competitive advantage and each strategy involves different resources, strengths and organizational arrangements. Additionally, Barney and Hesterly (2018) argue that these strategies cannot be implemented simultaneously. In their view, the organizational requirements of these strategies are essentially contradictory. As the cost leadership strategy requires the simple reporting relationships, product differentiation requires cross-divisional/cross-functional linkages. According to them, organizations that make this choice of strategies (medium price, medium market share) or attempting to implement both strategies simultaneously fail, as they will be "stuck in the middle". The value chain of cost leadership is qualitatively different from the required value chain of differentiation strategy (Yamin et al., 1999). Additionally, by analyzing Porter's strategy trade-off paradigm, it can be concluded that the opposed strategic dimensions could not be pursued at the same time without creating some sort of inefficiency in the firm's value chain (Porter, 1980, 1996). This is because strategic positioning, such as cost leadership and differentiation, involves contradictory activities and resource allocation that are mutually exclusive (Islami et al., 2020a).

On the other hand, several strategic authors have argued against Porter's assertion (Yamin et al., 1999). Scholars have continuously examined whether organizations which follow both competitive strategies are able to achieve superior contemporaneous performance (Banker et al., 2014). Thus, Pertusa-Ortega et al. (2008) found strong evidence that employing a suitable integrated strategy offers the required organizational settings in terms of flexibility and vitality for achieving competitive advantage. Additionally, Wright et al. (1990) suggest that organizations should focus on a combination of strategies that best suit their situations. Even, Miller (1992) claims that there are a number of risks related to the exclusive pursuit of a single

generic strategy, as the strategic specialization may be easy for rivals to counter, ignore important customer needs, leave serious gaps or weaknesses in product or service offerings, and in the long run, cause inflexibility and narrow the vision of the organization. Therefore, advancing an integrated strategy makes it possible to improve environmentally sustainable activities at affordable prices without compromising the quality of goods or services (Banker et al., 2014). Hence, manufacturing companies can or must pursue cost leadership and differentiation strategy simultaneously in order to remain competitive (Dombrowski et al., 2018). So, based on the success factors such as process utilization, process commonality, product individualization and delivery time, a strategic positioning of the production within the cost leadership and differentiation strategy can be made.

It is worth noting that the integrated strategy allows organizations to easily adapt to dynamic macroeconomic conditions (Moir & Lohmann, 2018), where organizations that operate in a dynamic environment must be more flexible and responsive in pursuit of an integrated competitive strategy to be more successful (Danso et al., 2019). Thus, in light of the numerous benefits related to both low-cost and differentiation strategies, it is acceptable for some organizations to choose to adopt the integrated strategy, where the disadvantages of one strategic orientation are counterbalanced by the advantages of the other (Kim et al., 2004).

The implementation of the integrated strategy focuses on achieving both low cost and differentiation by delivering superior value to customers and meeting their expectations on key attributes such as quality, reliability, durability and service, and keeping costs as low as possible to meet or exceed customers' expectations on price (Thompson & Strickland, 2001). In this vein, Acquaah (2007) indicates that it "implies that an organization implementing the integrated strategy would require a combination of the resources and skills needed by organizations pursuing low-cost and differentiation strategies respectively. Therefore, an integrated strategy organization will experience a higher level of risk and uncertainty in an emerging economy environment than nonintegrated strategy organizations. Integrated strategy organizations will rely more on social networking relationships and ties to obtain the resources and capabilities needed to deal with competitive forces in the market, and to capitalize on emerging market opportunities as they implement their strategic orientation" (p. 1243). It is worth clarifying that, "integrated strategy" may be referred to in the existing literature as a "dual strategy" (e.g. Li & Li, 2008).

2.3.3 Summary of Porter's competitive strategies

Porter's generic strategies (cost leadership and differentiation) have so far been considered as the most effective means that enable an organization to achieve a competitive advantage and increase performance. The strategic orientation of an organization may contain the cost leadership attributes (low-cost production), differentiation strategy attributes (unique needs, premium price), and the integrated strategy that adopts attributes from both competitive strategies, cost leadership and differentiation (eliminating the gaps/weaknesses of one competitive strategy with the strengths of the other strategy).

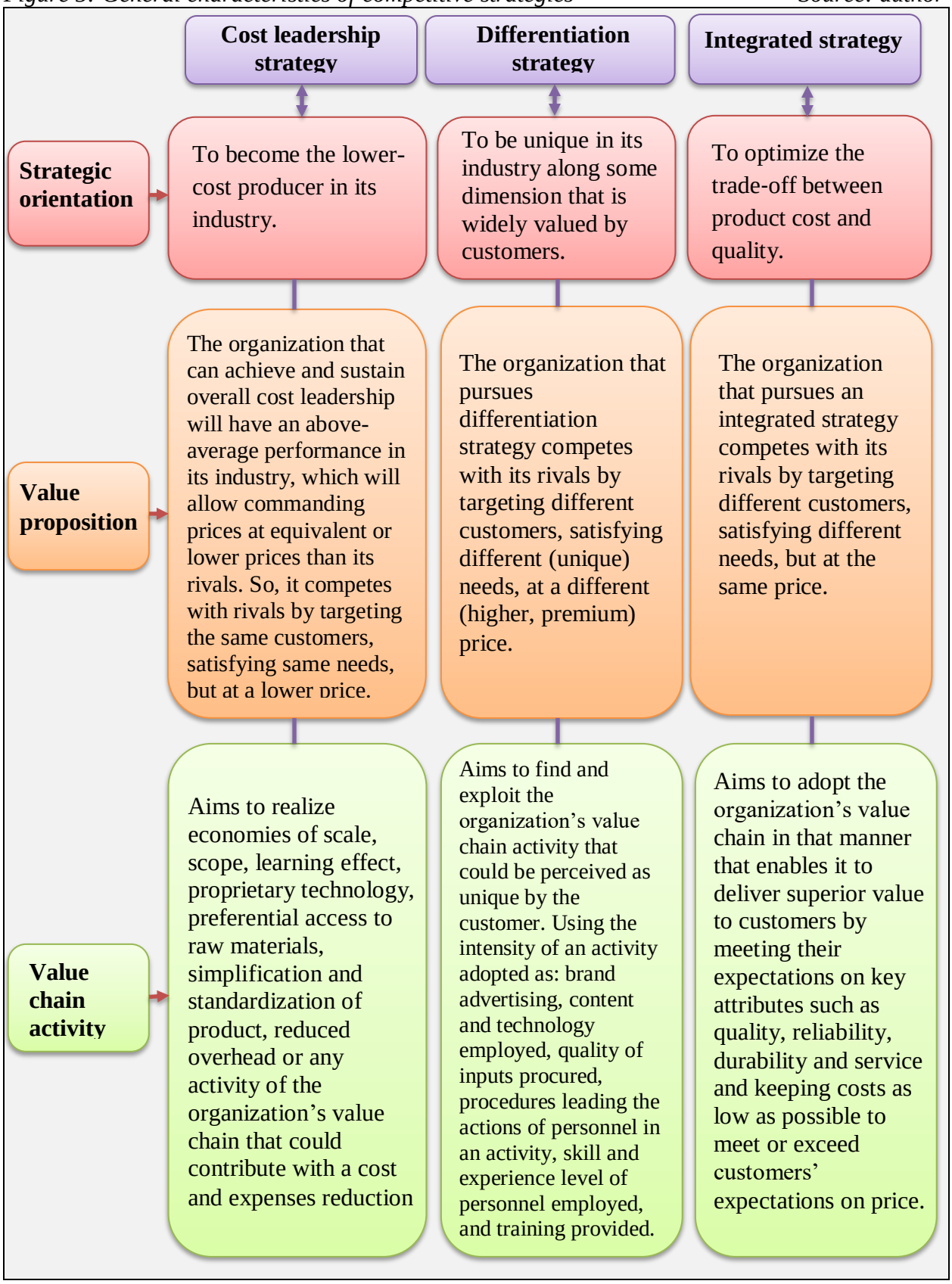
All these kinds of strategies have different strategic orientation, value proposition and value chain activities. An organization that pursues a cost leadership strategy aims to become the lower-cost production in its industry. Its value proposition is to have an above-average performance in its industry and lower prices than its rivals. The value chain activities of an organization that pursues low cost strategy aims to achieve economies of scale, scope, learning effect, proprietary technology, preferential access to raw materials, simplification and standardization of product.

An organization that pursues a differentiation strategy aims to be unique in its industry along some dimensions that are widely valued by customers. Its value proposition is targeting the different customers, satisfying different (unique) needs, at a different (higher, premium) price. The value chain activities of an organization that pursues a differentiation strategy aim to find and exploit the organization's value chain activity that could be perceived as unique by the customer.

An organization that pursues an integrated strategy aims to optimize the trade-off between product cost and quality. Its value proposition is targeting the different customers, satisfying different needs, but at the same price. It aims to adopt the organization's value chain in that manner that enables it to deliver superior value to customers while keeping costs as low as possible.

More specifically, the characteristics of these three kind of competitive strategies that are discussed in this study are shown in figure 5.

Figure 5: General characteristics of competitive strategies *Source: author*



2.4 Organizational performance

Performance is the difference between the cost of capital used by an organization to operate and its achieved results. It depends on the attractiveness of the industry where the organization operates (industry effect on performance) and the organization's competitive advantage (Bridoux, 2004). Organizational performance is a periodic issue in most management branches, including strategic management, and it is an interest of practicing managers and academic scholars. It measures how organizations accomplish financial as well as market-oriented goals (Yamin et al., 1999).

Quite a lot of studies have measured organizational performance using a combination of financial and non-financial criteria, including market share, the growth of ROI, return on investment (ROI), growth of sales, profit margin on sales, overall competitive position and the growth of market share (Vickery et al., 1999; Stock et al., 2000; Zhang, 2001; Li et al., 2006). Thus, by measuring organizational performance in a wider conceptualization, researchers are focusing on the criteria of operational performance in addition to the criteria of financial performance (Yamin et al., 1999). Organizational performance has continuously been measured using multiple dimensions criteria, since one dimension's criteria was not representative enough for the overall organization's performance (e.g. see Gupta & Govindarajan, 1984; Govindarajan, 1988; Spencer et al., 2009).

The effects of the three strategic instruments that are explored in this study (HRM practices, SCM practices, competitive strategy dimensions) on organizational performance, has been measured in the existing literature using one or more types of performance criteria. For example, the impact of HRM practices on organizational performance was measured through various criteria, such as: employee turnover and efficiency (Huselid, 1995), financial performance (Huselid et al., 1997), turnover, productivity, absenteeism, quality (Richard & Johnson, 2001), productivity (Chen et al., 2003), customer satisfaction (Koys, 2003) and operational performance (Lee et al., 2010). Likewise, the influence of SCM practices on organizational performance has been studied using financial and marketing criteria (Li et al., 2006), financial and operational criteria (Huo et al., 2014). Finally, the impact of generic strategies on organizational performance using financial and operational criteria was measured by Yamin et al. (1999) and Islami et al. (2020a), while Spencer et al. (2009) and Islami et al. (2020b), in the measurement of

the differentiation strategy effect on organizational performance, employed both financial and non-financial criteria. So, it is clear that three of the strategic instruments that are explored in this study can be measured using financial and operational criteria as two dimensions of organizational performance. Therefore, this study follows the method used by Li et al. (2006) and Huo et al. (2014), where organizational performance was measured using two dimensions: (a) operational performance (using non-financial criteria) and (b) financial performance (using financial criteria).

2.4.1 Non-financial performance – operational performance

Operational performance is employed to measure organizational performance in several strategic studies, as argued above. It aims to measure organizational success in non-monetary terms, or to be more specific, it is focused on finding items that provide a competitive advantage rather than on financial-focused factors such as return of investments or net profitability. Thus, it is preoccupied with finding and measuring how well an organization has created value for their customers (Spencer et al., 2009). In this context, it would be appropriate to treat such measures as new product introduction, market share, product quality, manufacturing value-added, marketing effectiveness, and other measures of technological efficiency within the scope of business performance (Tushman & Romanelli, 1985; Venkatraman & Ramanujam, 1986; Smith & Grimm, 1987).

In general, based on the existing literature, it can be concluded that most authors that have used the operational performance dimension in their studies, have used approximately the same criteria/factors. For example, Lee et al. (2010) measured firm performance through four dimensions: production cost, product quality, product delivery and production flexibility. Earlier, Youndt et al. (1996) used almost the same dimensions, such as cost, quality, delivery, delivery flexibility and scope flexibility. Where, delivery flexibility is the timing of the introduction of new products and on-time delivery (Lee et al., 2010). Whereas, scope flexibility is about the variety of things: handling non-standard orders, adjusting product mix and producing products in small quantities (Jayaram et al., 1999). Similarly, Skinner (1974) used five dimensions, such as short and dependable delivery, fast new product development, superior quality, volume flexibility and low cost. As a result, based on the literature, the dimensions suggested to measure

organizational performance (defined as operational performance) have not changed much in time.

It is worth noting that, selecting the operational performance indicators depends on the study specifications. Podgórski (2015) showed that selecting performance indicators is not an easy process, as a large number of pro-active performance indicators is available, a decision-making problem appears, which requires answering two questions: which key performance indicator should be selected from a given set of pro-active performance indicators and how to prioritize these indicators? According to him, the problem implies the need for defining the criteria for evaluation and selection of key performance indicators, and employing a relevant method in the domain of multi-criteria decision making analysis. Accordingly, it suggests using the method that is the set of criteria designated by the acronym of SMART, which stands for: Specific, Measurable, Achievable, Relevant and Time-bound.

Several criteria were used by previous authors. For instance, to describe marketing effectiveness, Yamin et al. (1999) used such criteria as rapid turnover of inventories, maintenance of market share for products and percentage in market share. Whereas, Gupta and Govindarajan (1984) and Spencer et al. (2009) used non-financial items, such as: development of new products, sales volume, market share, market developments, personnel developments and political-public affairs. So, there is no standard list of non-financial items/criteria that should be used by all studies that measure operational performance, but it rather depends on the nature of the work. This study uses five criteria to represent our market/operational performance, namely: overall product quality, responsiveness to customers, customer service level, delivery speed and delivery dependability.

2.4.2 Financial performance

Financial performance aims to measure the financial aspect of organizational development. So, it tries to evaluate the financial aspect using items that are expressed in monetary terms. In contrast with non-financial performance, which is focused on non-monetary terms (finding items that provide a competitive advantage), financial performance is focused on items that could be expressed in monetary terms, and that specifically or directly reflect financial value (Spencer et al., 2009). According to Spencer et al. (2009), it is likely that organizations use financial criteria

measures to evaluate their financial performance, which is how well they have extracted profits from the market. Therefore, financial metrics have served as a tool for comparing organizations among themselves, to an industry average norm, to benchmarking organizations and evaluating an organization's behavior over time (Holmberg, 2000). The narrowest conception of organizational performance focuses on the use of a simple outcome based on financial indicators that are assumed to reflect the fulfillment of the organization's economic goals and it is referred to as financial performance (Yamin et al., 1999).

It is worth presenting several items that were used in previous studies to measure organizational performance using financial indicators/criteria. For example, Zehir et al. (2015) used seven financial indicators: average net profitability compared to equity, net revenue achieved from basic operations, net profitability before tax compared to all available resources, financial success of the new products offered to market, average annual increase in sales, overall success level in financial terms and overall level of profitability. Gupta and Govindarajan (1984) and Spencer et al. (2009) measured financial performance with four items, such as return on investment, profit, cash flow from operations and cost control. Yamin et al. (1999) defined financial performance by six items: increased value of assets due to regular good performance, return on investment (ROI), increasing value of business, return on total assets exceeds the return from the capital markets, satisfaction of shareholders with company's performance and good profit margin on sales. Additionally, in terms of monetary items, Yamin et al. (1999) measured: financial management (effective debt control systems, collection of account when due, payment of accounts due, few debts, and effective cost control systems) and leverage (reduce profit margin for products, use of debt to upgrade assets, use of debt to finance other debts and competitive prices for products). Acquaah (2007) evaluated organizational performance using only financial indicators, such as: growth of net income, growth of sales and revenues, return on assets, growth in productivity and return on sales. Lastly, Danso et al. (2019) represent financial performance with eight items: growth in profitability, return on equity, return on investment, return on net worth, return on assets, net profit margin, gross profit margin and overall financial performance. As it is argued above, measuring financial performance enables us to find and evaluate the monetary aspect of the organization in terms of its profitability and generally in terms of returning the organization's investments. Therefore, this study uses seven monetary items to measure financial performance, namely: return on investment (ROI), growth in return on

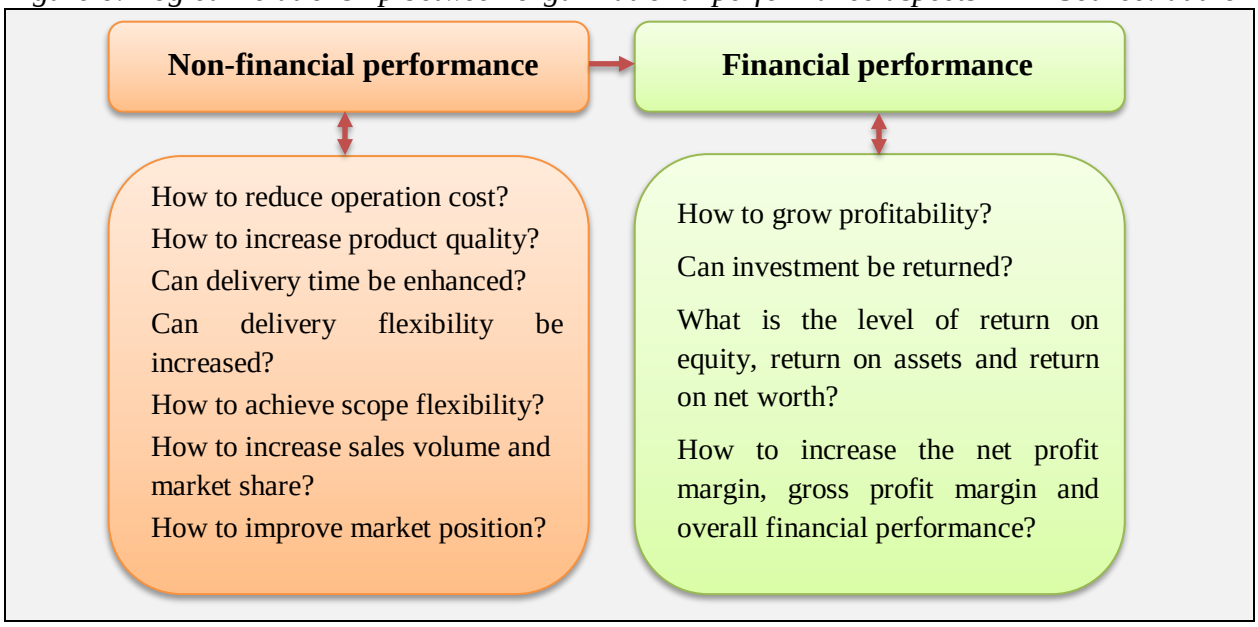
investment, growth in sales, return on sales (ROS), growth in return on sales, growth in market share and growth in profit.

2.4.3 Summary of organizational performance

Organizational performance has been measured using several indicators, which can be summarized in two main categories, such as: non-financial performance and financial performance. Authors suggest paying special attention to selecting indicators that serve to represent organizational performance in a specific study. Thus, a useful method on selecting the adequate performance indicators is considered a set of criteria denoted by the SMART acronym, which stands for: Specific, Measurable, Achievable, Relevant and Time-bound.

In this respect, it is worth noting that a positive relationship between non-financial performance and organizational performance exists. Indeed, Li et al. (2006) argued that non-financial performance (competitive advantage dimensions: price/cost, quality, delivery dependability, product innovation and time to market) has a positive impact on increasing organizational performance. Thus, it can be concluded that achieving high operational performance will turn to high financial performance for an organization. Figure 6 shows the logical relationship between non-financial performance and financial performance, and their feedback goals presented in the form of questions.

Figure 6: Logical relationship between organizational performance aspects *Source: author*



CHAPTER III– INSTRUMENTS' RELATIONSHIP AND RESEARCH HYPOTHESES

This chapter presents the logical relationship between instruments and their dimensions, which are presented in the strategic literature. Thus, a perusal of the literature helped to put on the right track the proper hypotheses that are raised in this section and which have to be tested in the fifth chapter of this study. Therefore, this study's hypotheses were not raised in a vacuum, but in harmony with requirements of academic circles for establishing hypotheses. They were based on previous credible research studies of the management and strategic area. Indeed, this part of the study is focused on three main issues, i.e.: (a) presenting the relationship between HRM practices, SCM practices, and organizational performance, (b) presenting the mediating role of SCM practices on the relationship between HRM practices and organizational performance, and (c) showing the moderating effect of competitive strategy on these relationships. It clarifies the previous definitions that have provided sufficient facts to support the research hypotheses of the current study. Lastly, it investigates the relationship between strategic instruments, misunderstandings of these relationships and the lack of literature regarding these relationships, which will be complemented by the outcomes of this study.

3.1 HRM practices, SCM practices, and organizational performance

Human resource management has become a top strategic priority in supply chain integration and the efforts made by companies to achieve sustainable growth by leveraging human capital (González-Loureiro et al., 2014). Shub and Stonebraker (2009) conceptually demonstrated the relationship between a set of HRM practices and supply chain integration suggesting that a fit should be established between them. Where, supply chain integration has been recognized as the key value-creating activity in supply chain management (Horvath, 2001). Thus, the role of HRM in SCM has become a top priority for organizations, since they have started to cope with expanding globalization and a corresponding rising demand for capable supply chain managers (Hohenstein et al., 2014).

Authors that have analyzed the relationships of HRM and SCM practices urge for further investigations in this area. While there is increasing recognition of the significance of HRM practices in SCM activities, there continues to be little empirical study on the interface between

HRM and SCM (Fisher et al., 2010), and important issues remain unexplored (Hohenstein et al., 2014). For example, Hohenstein et al. (2014), who conducted a systematic literature review on analyzing the effects of HRM issues in SCM research, indicate a growing focus on HRM/SCM issues in recent years, with a trend that is predicted to continue. Huo et al. (2015) also conducted a literature review on analyzing this interrelationship, but in contrast to Hohenstein et al. (2014), focused only on investigating how HRM practices are linked to SCM activities. Since it should enable supply chain managers to leverage human capital better, they claimed that an investigation of a set of HRM practices and determining their different roles in influencing SCI is necessary (Huo et al., 2015). Therefore, despite the critical role that talented and highly qualified human resources have on SCM success, little empirical research investigates the influence of HRM practices on SCM and organizational performance (Hohenstein et al., 2014).
HRM practices are considered as a set of internally consistent practices and policies designed and implemented to ensure that an organization's employees contribute to the attainment of its business objectives (Delery & Doty, 1996). In this respect, Otoo (2019) suggests that the creation of a "[…] competitive advantage through people requires careful attention to the practices that best leverage these assets" (p. 949). Thus, organizations are focused on developing HRM systems that permit them to attain their strategic goals (Panayotopoulou et al., 2003). But, in order for these systems to be successful, they should be accompanied by the relevant philosophy, culture or mentality of managing people. Indeed, increasing the effectiveness of SCM practices and organizational performance, organizational resources and capabilities rest on the availability of HRM practices. Following this argument, the first hypotheses, H_{1a} and H_{1b} posit the basic linkages between HRM practices with SCM practices and organizational performance.

3.1.1 The influence of HRM practices on SCM practices

Human resource management is an essential component that adjusts the performance of supply chain management activities. Using an interdisciplinary approach, quite a lot of authors have studied elements of this interrelationship in diverse viewpoints, and have offered enough evidence for a cause-effect linkage between these instruments. For instance, Hohenstein et al. (2014) indicate that SCM practices are directly dependent on human resource management. Additionally, SCM practices have been reported to be reliant on management and employee

support for SCM programs (Dooley & Fryxell, 1999; Dow et al., 1999) and on successful implementation of employee training (Bubshait & Farooq, 1999; Goldstein & Ford, 2002). Thus, the effectiveness of SCM practices could be improved by HRM factors, which make it possible to avoid the organizational implementation barriers (Wilkinson et al., 1993; Dow et al., 1999).

The effect of HRM on SCM practices was defined clearly by Sweeney (2013), who specifies that the supply chain is a "human chain" and SCM has to do with those managing the supply chains. Similarly, Myers et al. (2004) highlight that the role of HRM has attracted much attention in SCM since the logistics process within a supply chain is essentially "human centric" (p. 212). Therefore, a close coordination between managers of HRM and SCM departments is required in order to recognize the main skills, knowledge gaps and training requirements to keep the organization competitive (Liboni et al., 2019). Hence, talented HR in SCM offers an extraordinary source of sustainable competitive advantage by improving SC performance (Ellinger & Ellinger, 2014).

Despite the importance of discovering this relationship, the direct link between HRM practices and SCM practices has received relatively lesser attention in empirical studies. The possible reason behind the absence of empirical interest in the results of SCM practices could partially be due to a perspective embraced by some HRM and strategic scholars that view SCM as an outcome variable on cost reduction, resource efficiency and customer service (Kumari et al., 2013). It is worth noting that, in order to discover the HRM and SCM relation, Goldstein and Ford (2002) have put forward the question: to what extent can HR factors (such as, management and employee support, as well as, training of employees that operate in the SCM system) improve SCM success?

According to Pagell et al. (2000), employee skills refer to the knowledge, techniques or competencies that enable employees to meet the requirements of assigned jobs in the organization. While, Batt (2002) emphasizes that these skills might have been acquired either before the employee is hired or through subsequent training programs. Thus, Huo et al. (2015) highlight that selective hiring and skills depth and breadth is required to enhance employee skills. Where, selective hiring means that employees should be selected based on their trainability and flexibility (Huber & Brown, 1991), which makes them competent for doing their jobs within the organizational value chain. "In addition to selective hiring, companies must initiate a series of training programs to develop firm-specific human capital and increase the

depth and breadth of employee skill. Depth of skill means that employees acquire skills through training that are above the industrial level and allow them to perform their tasks efficiently. Breadth of skill means that employees acquire skills through training that make them capable of performing different tasks if necessary" (Huo et al., 2015, p. 719). Accordingly, Gowen and Tallon (2003) empirically found that management and employee support have a positive and statistically significant influence on SCM practices. In addition, Ellinger and Ellinger (2014) point out that human resource management concepts and practices can support the implementation of SC practices.

Based on the review of the literature above, this study, therefore, proposes the hypothesis H_{1a} (see 3.4 Research hypotheses – H_{1a}).

3.1.2 The influence of HRM practices on organizational performance

The effects of HRM practices on organizational performance have been the foremost issue for decades in a number of theoretical and empirical studies in the HRM area (Schuler & Jackson, 1987; Ostroff, 2000; Minbaeva, 2005). Thus, the relationship between single or interrelated sets of HRM practices and organizational performance has been investigated. Indeed, the empirical results of these relationships, whether as a direct or indirect linkage, were positive (e.g. Huselid, 1995; Delery & Doty, 1996). Some HRM practices have a bearing on organizational performance through their influence on the competencies of employees (Otoo, 2019). Where, competency is defined as a combination of knowledge and skills that are required for an effective performance (Bhardwaj & Punia, 2013), and as a professional's generic capability consisting of a combination of the knowledge, skills and attitudes of a person (Mulder, 2007).

Human resources are always a potential source of sustained competitive advantage and organizational performance (Wright et al., 1994). On the other hand, they stress the concern for the potential of human resources as a sustained competitive advantage, which is achieved through imitating HR practices of firms that have successfully developed their human resources. Imitating other organizations' successful HR practices cannot successfully be developed by all firms for the reason that human resources are characterized by unique historical conditions, social complexity and causal ambiguity. Thus, human resources practices do not always bring an organization success (regardless of conditions), but they can only be a source of sustainable

competitive advantage and consequently increase organizational performance, when they support resources or competencies that provide value to an organization (Wright et al., 2001). Sophisticated and integrated HRM practices by increasing knowledge, skills and abilities, improving motivation, increasing the retention of competent employees and reducing shirking and absenteeism will have a positive effect on employee performance (Zhu et al., 2005), and subsequently may increase organizational performance.

Quite a lot of studies have empirically found that various aspects of organizational performance may be determined from interrelated sets of HRM practices. For example, Lee et al. (2010) empirically found a statistically significant positive effect of six HRM practices (teamwork, training and development, employment security, compensation/incentives, performance appraisal and human resource planning) on operational performance. Also, Ahmad and Schroeder (2003) proved the impact of seven HRM practices (selective hiring, employment security, compensation/incentive contingent on performance, use of teams and decentralization, status differences, extensive training, and sharing information) on operational performance. Then, Chang and Chen (2002) pointed out the positive influence of a set of five HRM practices (training and development, benefits, teamwork, performance appraisal and human resource planning) on firm performance. Recently, Otoo (2019) indicated the positive impact of five HRM practices (recruitment and selection, career planning, employee participation, training and development and performance appraisal) on organizational performance.

It is well known that HRM may impact organizational performance through the strategic management of people's knowledge, skills and abilities (Huselid, 1995). Therefore, it can be said with confidence that HRM practices may enhance organizational performance by impacting employee motivation and skills and the structure of work (Delaney & Huselid, 1996). The efficacy of implementing HRM practices in an organization has a substantial effect on its performance (Osman et al., 2011). Based on the review of the literature above, this study, therefore, proposes the hypothesis H_{1b} (see 3.4 research hypotheses – H_{1b}).

3.2 The mediating role of SCM practices

One of the main factors that increase organizational performance is the cohesiveness of the relationships between supply chain partners. Therefore, since the competition is no longer between organizations but rather between their supply chain management, SCM practices have become one of the primary issues in strategic analysis. SCM practices may help an organization relate with partners across its boundaries. In order for an organization to withstand hardships, remain unscathed by adversities (Gölgeci & Kuivalainen, 2020) and uphold cohesion across its boundaries strong relationships and joint resource and information (Borgatti & Halgin, 2011) with SC partners are needed. Organizational risks and disruptions may be solved effectively with collaborative partnerships, where organizations running collaborative inter-organizational relationships are better prepared to handle SC disruptions (Johnson et al., 2013). As it is affirmed, carrying out SCM practices clarify the impact of HRM issues, such as: management and employee support and training, and organizational implementation hurdles to supply chain management success (Gowen & Tallon, 2003), which in turn are linked to organizational performance. Following this argument, the second and third hypotheses, H_2 and H_3 posit the basic effects of SCM practices on organizational performance and its mediating role on the relationship between HRM practices and organizational performance.

3.2.1 The influence of SCM practices on organizational performance

Recently, supply chain management has become one of the most important fields arousing interest in strategic and operational scientific research. Uncertainty and a lack of partnership cloud the bargains between organizations, thus requiring a close collaboration with across boundaries partners to harmonize their activities and sustain their existence. As organizational competition moves beyond individual organizations on the supply chains, it is not enough to focus only on improving intra-organizational quality management practices (Hong et al., 2019) in order to improve its whole supply chain. Therefore, “Initially, manufacturing companies have accomplished massive productivity gains through the implementation of lean production in response to this intensifying competition. The “waste” has been eliminated from many different local operations for the sake of better productivity. Currently, such massive productivity

improvements are very limited for many manufacturing organizations. Instead, there is a huge improvement potential to reduce the inefficiencies caused by the poor performance of the suppliers, unpredictable customer demands and an uncertain business environment. An integrated supply chain has a clear advantage on the competitiveness of the individual companies" (Koh et al., 2007, p. 104).

SCM literature provides several studies that argue a positive relationship between divergent perspectives of SCM practices and organizational performance (Quang et al., 2016; Truong et al., 2017). But, these studies viewed SCM practices as independent variables – thus focusing mainly on their direct effects (Duong et al., 2019). Nevertheless, organizations "usually apply practices concurrently and since each one works simultaneously within the system, the practices themselves will affect/be affected by the others. […] mutual interaction between SCM practices will be helpful in improving the execution of each practice, thereby increasing the total effect these practices have on OP" (Duong et al., 2019, p. 1054).

On one hand, the effects of interrelated sets of SCM practices on organizational performance were examined. For example, Li et al. (2006) empirically showed that a set of five SCM practices (including strategic supplier partnership, level of information sharing, customer relationship, quality of information sharing and postponement) have a statistically significant positive impact on competitive advantages and on increasing organizational performance. Aswini et al. (2019) pointed out that six SCM practices (strategic supplier partnership, level of information sharing, customer relationship, quality of information sharing, risk and reward sharing and postponement) have a significant and positive impact on organizational performance. Several authors found out a positive relationship between SCM practices and organizational performance (e.g. Tan et al., 1999; Prasad & Tata, 2000; Shin et al., 2000; Koh et al., 2007; Duong et al., 2019).

On the other hand, several researchers measured the effects of a single SCM practice on organizational performance. For example, Tan et al. (1998) measured it by employing only the role of customer relation practices (the downstream side of the supply chain) on increasing organizational performance. Lamming (1996), Stuart (1997) and Stanley and Wisner (2001) defined the strategic supplier partnership (the upstream side of the supply chain) as a factor that causes the organization benefits in terms of its financial performance. The divergence perspectives on SCM practices and their role in performance outcome motivate examining the

potential role of SCM practices (a set of five SCM practices that are logically related between them) on organizational performance to better understand their value and relevance to the organization operating amid increased uncertainty and volatility in a dynamic and complex environment. Thus, in view of the theoretical arguments and pertinent empirical evidence (Gölgeci & Kuivalainen, 2020), SCM practices that are closely related could be expected to have a largely positive role in enhancing the organization's performance and competitiveness. Based on the review of the literature above, this study, therefore, proposes the hypothesis H_2 (see 3.4 research hypotheses – H_2).

3.2.2 The mediating influence of SCM practices on the relationship of HRM practices and organizational performance

Traditionally, existing research has highlighted the benefits of relationships (Dyer & Singh, 1998), but new research admits that there can be both positive and negative consequences for inter-organizational relationships (Mitręga & Zolkiewski, 2012). Skills, knowledge, competencies or techniques of human resources within the organization will be expected to be more effective in their roles and increasingly flexible to a fluid organizational and competitive environment (Gowen & Tallon, 2003). According to Gowen and Tallon (2003), in order for an organization's ability to excel in a dynamic and complex environment (produced as a result of increasing numbers of organizations and greater complexity), which makes the supply chain evolve, it will require a strong organizational commitment to HRM (e.g. employees will be required to utilize the tools of scientific management and enhance their abilities to communicate across various organizational functions and entities). However, HRM practices do not inevitably result in desired performance outcomes. Thus, deploying SCM practices can help organizations achieve positive results from HRM practices. Therefore, as a possible stock of tangible and intangible relational assets (Gölgeci & Kuivalainen, 2020), HRM may necessitate the mediating means of SCM practices to channel its probable influence on organizational performance.

It is worth noting that, a study performed by Michigan State University, which investigated a large number of organizations with the aim of identifying particular skills or competencies that increase logistic performance, supports the idea that the development of HR directly affects the success of SC practices (Bowersox et al., 1989). Accordingly, HRM practices have emerged as a

top strategic priority in SCM and in efforts made by organizations to attain sustainable growth through leveraging human capital (Ellinger et al., 2005). However, they need to go through processes supported by SCM practices to develop into external partnerships that foster organizational performance. Hence, organizations invest in HR capital to boost competitiveness (Myers et al., 2004), since human resource interactions are involved in the supply chain, and a superior supply chain performance is facilitated by interpersonal skills and relationships (Ketchen & Hult, 2007). As a result, the competition for high-potential employees has become a global SCM challenge for organizations in terms of recruiting, retaining and developing their human resources (Keller & Ozment, 2009). In view of that, if the organization does not possess adequate SCM practices, it may not reap the benefits of HRM practices to a fuller extent.

Certain researchers have examined the ways in which these two instruments rely upon each other in order to increase organizational performance. For example, after analyzing the works of Mangan and Christopher (2005), Richey et al. (2006), Harvey et al. (2013), and Ellinger and Ellinger (2014), Hohenstein et al. (2014) inferred that recruiting and retaining the most qualified and talented employees increases the importance of HRM on SCM. Accordingly, HR skills are needed for successfully managing the supply chain, particularly managing ambiguity, problem-solving and multi-level communicators, being strong and global citizens (Ellinger & Ellinger, 2014), in order to achieve competitive advantages.

The best practices of leading-edge organizations have indicated that such efforts may, in fact, improve the likelihood of a firm maximizing its SCM performance (Gowen & Tallon, 2003), arguing that HRM practices increase the success of SCM practices. SCM practices can, therefore, transform insights, information, and agreements attained in external settings into helpful elements for enduring adversities and overcoming disruptions, which can be caused by a lack of across border partnerships of the organization. Thus, developing a managerial paradigm proposed as the true effectiveness of SCM practices makes it possible to achieve a sustainable competitive advantage (Powell, 1995). Whereas, based on previous research, Li et al. (2006) indicate that SCM may ultimately lead to improved organizational performance. Accordingly, several authors have confirmed the positive effect of SCM practices on different aspects of organizational performance (e.g. Ou et al., 2010; Quang et al., 2016; Duong et al., 2019).

In this study, SCM practices are expected to mediate the relationship between HRM practices and organizational performance in the following way: HR managers have a clear image of what

the organization is going to be and what it is going to accomplish in the future. SCM activities play a vital role in implementing the manager's blueprint aimed at achieving a sustainable competitive advantage and increasing organizational performance. Without across organizational boundaries cooperation, such as strategic supplier and customer partnerships, information sharing, lean manufacturing and postponement strategy, the blueprint of HR managers is not effectively transmitted in the competitive advantage. For the blueprint to become a reality, the HR activities have to rely on SC partners to help the organization become competitive in a competitive market.

The organization must be able to meaningfully link its knowledge (HRM aspect) to its operations (SCM aspect) (Najafi et al., 2013), if it hopes to overcome the challenges it continually faces (Gölgeci & Kuivalainen, 2020). Thus, it is argued that HRM practices are linked to SCM practices, which in turn are linked to organizational performance. Based on these arguments, it can be reasoned that SCM practices play a mediating role in the relationship between the HRM practices and organizational performance, because HRM professionals holding a more strategic role creates conducive conditions (Mitchell et al., 2013) to adopt SCM practices within organizations. Such adoption of supply chain practices leads, in turn, to enhanced organizational performance. Indeed, organizations need not only the opportunity to have the knowledgeable human resources provided by training or other formal education, but also the possibility of utilizing them through the complementary capability of supply chain management practices. This study, therefore, proposes the hypothesis H_3 (see 3.4 research hypotheses – H_3).

3.3 The moderating role of competitive strategy

Recently, nearly all business functions are headed and connected with overall organizational strategy (Gold & Heikkurinen, 2013). In exploring the practice – performance relationship from a universal (behavioral) perspective, an added caution should be exercised (Huo et al., 2014). Since the performance effects of organizational practices, even the best practices, are contingent on the strategy (Ketokivi & Schroeder, 2004). Therefore, since organizations have to contend with competing priorities and business practices within and across their boundaries (Gölgeci et al., 2019), competitive strategy might be crucial in leveraging potential synergies between HRM

practices, SCM practices and organizational performance, which integrates and uses them wisely toward achieving a specific position in a competitive market.

There is evidence in existing literature that strategy operates the human resource practice – performance relationship (e. g. see, Huselid, 1995; Youndt et al., 1996; Delery & Doty, 1996; Lee at al., 2010), which strengthens the relationship between HRM effectiveness and labor productivity (Wang & Shyu, 2008). Therefore, when HRM and business strategy are aligned, the effectiveness of HR practices and organizational performance will increase more than "that of not aligned" by a contingency perspective (Wang & Shyu, 2008).

In fact, in boundary-spanning partnerships, leading-edge organizations may have few prospects of applying and utilizing their human resources to foster supply chain capacity if a competitive strategy does not lead toward a competitive advantage. Thus, competitive strategy must specify how an organization will achieve its competitive advantages through its supply chain capabilities such as cost efficiency (Qi et al., 2011), high product quality and a high product quality with low-cost. Supply chain strategy also specifies how logistics, purchasing, manufacturing and marketing functions work together to support the desired competitive strategy (Handfield & Nichols, 2002). As a result, organizational integration of HRM and SCM practices may be ineffective without a goal, structure and activities that are harmonized with a competitive strategy. Therefore, this study proposes a revised theory of HRM–SCM–performance nexus by introducing competitive strategies (Hohenstein et al., 2014) as contingent variables to clarify the conditions under which the HRM–SCM relationship is effective in driving organizational performance.

Since the contingent effects of competitive strategies on this relationship remain largely unaccounted in existing literature, "this research gap is surprising given that competitive strategies can exert varying influences on firms' ability to mobilize and utilize key resources, leading to their successes or failures" (Danso et al., 2019, p. 1). Thus, organizations compete with rivals due to growth in emerging markets, their ultimate growth depends largely on their ability to formulate and implement a viable competitive strategy (Danso et al., 2019). Indeed, according to contingency theory, the organization's strategic posture conditions the effect of organizational practices on organizational performance (Huo et al., 2014). Following this argument, the set of four hypotheses, H_{4a}; H_{4b}; H_{4b1}; H_{4b2}; H_{4c}; H_{4c1}; and H_{4c2} posit the basic

effects of competitive strategies on organizational performance, and their moderating role on the relationship between HRM practices, SCM practices and organizational performance.

3.3.1 The influence of competitive strategy on organizational performance

In management and strategic literature, researchers have argued that, since organizations are capable of appraising their value chains to increase efficiency, reduce costs and enhance performance (Hall et al., 2010), a competitive advantage can come from their strategic resources (Grant, 1991; Barney, 2002). The strategy is frequently described as a deliberate set of actions to achieve a competitive advantage that gives direction and coherence to an organization (O'Regan et al., 2004). Accordingly, quite a lot of studies in strategy have confirmed that a relationship exists between organizational performance and cost leadership strategy, differentiation strategy (Porter, 1980, 1985; Hambrick, 1983; Yamin et al., 1999; Islami et al., 2020a) and integrated strategy (Acquaah, 2007; Danso et al., 2019).

Although several studies have argued a positive relationship between competitive strategy and organizational performance, in general findings per this relationship are not homogenous. A number of studies were not able to find such a relationship between a competitive strategy and firm performance (e.g. McGee & Thomas, 1986; Thomas & McGee, 1992) while others have argued that this relationship is not powerful under some situational variables (Davis & Schul, 1993; Zahra, 1993; Nandakumar et al., 2011). Accordingly, Spencer et al. (2009) highlighted that "A sustained competitive advantage is not, however, only about strategic choice" (p. 84). These unsustainable contradictions in the strategic literature prompted Allen and Helms (2006) to appeal for further examination on the relationship between business strategy and organizational performance in order to progress strategic theory.

Yamin et al. (1999) empirically demonstrated a positive influence of competitive strategies (low-cost strategy and differentiation strategy) on organizational performance. Accordingly, measuring the relationship between competitive strategy (cost leadership and differentiation strategy) and sustainable financial performance, Banker et al. (2014) and Islami et al. (2020a) argue that both strategies have a positive effect on firm performance, even though the differentiation strategy has precedence on this relationship compared to the cost leadership strategy. Similarly, Danso et al. (2019) presented a positive effect of integrated strategy on

financial performance. Further, Li and Li (2008) considered that an organization's superior performance can be achieved since its reliance on integrated strategic orientation is tantamount to existing organization-specific conditions. Indeed, "most customers are likely to desire differentiated quality brands of low competitive prices than being made to select either a low price or a unique product" (Danso et al., 2019, p. 3).

Despite the findings that are presented above, there appears to be a lack of empirical research investigating the relationship between competitive strategies and organizational performance in the manufacturing industry (Lee et al., 2010). Consequently, this study, therefore, proposes the hypothesis H_{4a} (see 3.4 research hypotheses – H_{4a}).

3.3.2 The moderating influence of competitive strategy on the relationship of HRM practices and organizational performance

In prior works, the relationship between specific segments of HRM practices, competitive strategy and organizational performance has been demonstrated in some aspects. Various management researchers claim that the desirable fit concepts between HRM practices and competitive (business) strategy can be helpful in organizational productivity. For example, according to the behavioral perspective, as the predominant paradigm on HRM research (Snell, 1992), HRM practices should be connected to business strategy (Lee et al., 2010). Similarly, contingency theory highlights that a close connection exists between HRM practices and business strategy (Lee et al., 2010). Additionally, the strategic perspective of HRM inspects the fit between different HRM practices and an organization's strategies (Delery, 1998).

When an organization implements HRM practices that encourage employee behavior that is consistent with its business strategy, higher performance might be expected (e.g. see Bird & Beechler, 1995; Delery & Doty, 1996). Since using the strategic fit concept helps organizations reduce operational costs and respond effectively to environmental restraints and new opportunities, it inherently helps them manage their resources more efficiently (Bird & Beechler, 1995). Thus, all human resource activities ultimately have to contribute to achieving organizational and supply chain goals such as low costs, high levels of dependability, high quality and flexibility (Lengnick-Hall et al., 2013). Accordingly, the integration between HRM practices and business strategy can be an essential factor in achieving organizational

effectiveness (Youndt et al., 1996). Consequently, organizations apply their human resource practices based on the goals that are consistent with their overall business strategy and then implement those practices most likely to serve those objectives (Bamberger & Meshoulam, 2000).

"Business strategy and human resource management strategy have interactive effects on organizational performance. Otherwise stated, the organizational performance of firms that achieve strategic linkage between business strategy and human resource management strategy (i.e. cost leadership – utilization, innovation – facilitation, and quality enhancement – accumulation) is superior to that of firms that do not achieve such linkage" (Huang, 2001, p. 135). Formerly, Bird and Beechler (1995) investigated the linkage between business strategy and HRM strategy of Japanese subsidiaries that operate in the United States, in order to find out whether fit between a subsidiary's business strategy and its HRM strategy is associated with higher performance. The results displayed that Japanese subsidiaries with a business strategy-HRM strategy match are more likely to achieve better firm performance versus competitors than unmatched ones. Therefore, an effective relationship between business strategies and HRM strategies may be expected to enhance organizational performance (Huang, 2001). "This hints that involving senior manufacturing managers in the strategic planning process helps align business strategy and operations practice, and this alignment can lead to higher manufacturing performance" (Jayaram et al., 2014, p. 690).

Characteristics of organizations that implement a cost leadership strategy include cost reduction and economies of scale (Schuler & Jackson, 1987), an increase of repetition and routine tasks, job organization based on narrow and specialized tasks, tight control and rigid adherence to procedures (Arthur, 1992; Youndt et al., 1996), and, for that reason, they are expected to demonstrate positive financial results (Panayotopoulou et al., 2003). Therefore, the relationship between HRM practices and organizational performance can be contingent on a cost leadership strategy.

The relationship between differentiation strategy and high-performance human resource practices can be more resilient if employees are strongly committed to their organizational objectives (Sun & Pan, 2011). Therefore, the HR function should act as a change agent in pioneering organizations, a role that requires a greater degree of flexibility and is related to the open system model (Cameron & Quinn, 1999), which seeks to continuously improve products,

services and processes (Panayotopoulou et al., 2003). Hence, for the organization that pursues a differentiation strategy, its intellectual and human capital are the main concern, and are expected to become knowledgeable workers and be involved in identifying and solving problems, planning and quality control (Youndt et al., 1996). Thus, organizations pursuing differentiation strategies will see a stronger positive relationship between HRM and subsequent productivity (Neal et al., 2005).

In this respect, Richard and Johnson (2001) rightly highlight that a competitive strategy moderates the relationship between HR practices and firm performance. Therefore, this study expects that a competitive strategy can enhance the influence of HRM practices on organizational performance. Given its characteristics and the core benefits discussed above, a competitive strategy can function as an agent in transforming HRM practices into organizational performance. Organizations that align and combine their human activities can be effective in organizing their HR and managing knowledge rooted into these organizational structure networks. Accordingly, HRM practices can be best utilized, when they are harmonized based on a competitive strategy requirement. Based on the discussion above, in order to have an in-depth understanding of the moderating role of competitive strategies on the link between HRM practices and organizational performance, this study, therefore, proposes the hypotheses H_{4b}, H_{4b1}, H_{4b2} (see 3.4 research hypotheses – H_{4b}, H_{4b1}, H_{4b2}).

3.3.3 The moderating influence of competitive strategy on the relationship of SCM practices and organizational performance

When it comes to SCM practices, competitive strategy increases interactions between the supply chain partners in ways that help realize their organizational objectives. With the emerging of SCM, the alignment of competitive and supply chain strategies turn into a challenging new task (Qi et al., 2011). As achieving a competitive advantage is the pivotal goal of all organizations, it requires an alignment of supply chain capabilities with market needs through supply chain strategies (Soni & Kodali, 2011). Therefore, SCM strategies must be aligned with firm strategies in order to create a sustainable competitive advantage (Hofmann, 2010).

Although the merger between competitive strategy and supply chain strategy is explored in existing literature, there is a lack of empirical measurements and supports (Morash, 2001;

Cigolini et al., 2004). Therefore, authors have repeatedly required testing the alignment between SCM practices and competitive strategies, in order to measure their effectiveness in the organization's success. In this vein, some dimensions of SCM practices and competitive strategy on firm success were examined by Tamas (2000) and Baier et al. (2008). The organization's performance consistently underperforms as a result of the discrepancy between competitive strategies and the supply chain practices nexus (Baier et al., 2008). In uncertain and difficult times, cooperation may be rewarded within the firm and among the SCM partners (Gölgeci & Kuivalainen, 2020) in order to find a course toward organizational success. In this case, a competitive strategy provides an incentive which strengthens the relationship between SCM practices and organizational performance. Thus, the existing literature portrays SCM practices from various viewpoints with a common goal of ultimately improving organizational performance (Li et al., 2006).

Distinctive supply chain practices ought to be aligned with business strategies, where a focal organization invests and develops suppliers with the intention of improving their efficiency and increasing possible collaborative advantages (Hoejmose et al., 2013). Supply chain researchers Narasimhan and Carter, 1998, Cousins, 2005, González-Benito, 2010 and Hoejmose et al., 2013 have analyzed the relationship between competitive strategies (cost leadership strategy and differentiation strategy) and SC activities, clarifying the knowledge for their alignments with the aim of maximizing competitive performance. While, it is claimed that competitive strategies had no significant moderating effect on the association between supply chain integration practices and operational/financial performance (Huo et al., 2014), they argued a partial support of the moderating role of competitive strategies on this relationship.

Similarly, pursuing a cost leadership strategy or a differentiation strategy requires making changes in the organization's supply chain activities in order to synchronize them with the competitive strategy selected. When the organization chooses to pursue a cost leadership strategy, it must reduce the total cost of producing (that can be divided into physical costs – cost of production and transportation, and market mediation costs – cost of markdowns and opportunity costs of not being able to make a sale due to shortage of products) and distributing products (Qi et al., 2011). Whereas, if the organization chooses to pursue a differentiation strategy, it must have a better understanding than its competitors of customer requirements and design products with unique features to better meet customer needs (Qi et al., 2011). Thus, by

boosting the competitiveness of the supply chain, a competitive strategy affects organizational performance (Soni & Kodali, 2011).

Increasingly, the integration between supply chain management and strategic management extends knowledge development in both areas, and consequently, enhances organizations' ability to meet their goals (Ketchen Jr & Giunipero, 2004). In view of that, the key facet of successful organizations is the alignment between a competitive strategy and operations practice in the shape of strategic action programs (Jayaram et al., 2014). Further research needs to be done in order to examine more clearly the interaction between supplier management practices and specific strategies (Tamas, 2000).

This study expects that competitive strategies would positively moderate the relationship between SCM practices and organizational performance, since the entity as a whole could give a more unified response to the supply chain partners, due to joint inducements to work together to improve organizational achievement. Based on the discussion above, in order to have a thorough understanding of the moderating role of competitive strategies on the correlation between SCM practices and organizational performance, the current study, therefore, proposes the final set of hypotheses H_{4c}, H_{4c1}, H_{4c2} (see 3.4 research hypotheses – H_{4c}, H_{4c1}, H_{4c2}).

3.4 Research hypotheses

The literature discussed above offers theoretical support to use an interdisciplinary perspective on testing the relationship between strategic instruments, such as: HRM practices, SCM practices, and competitive strategy, between them and with organizational performance. Therefore, as is argued above in this chapter, the hypotheses of this study are as follows:

- General hypothesis (**H_g**):
  An organization's integrative strategic model incorporating the influence of HRM practices as a focal independent variable and SCM practices as a mediator, under contingency effect of the competitive strategies strengthens the organizational performance in manufacturing industry.

- First hypotheses (**H_1**):
  H_{1a}: An organization's HRM practices have a positive influence on its SCM practices.

H_{1b}: An organization's HRM practices have a positive influence on its organizational performance.

- Second hypothesis (**H_2**):

  H_2: An organization's SCM practices have a positive influence on its organizational performance.

- Third hypothesis (**H_3**):

  H_3: An organization's SCM practices mediate the link between HRM practices and organizational performance.

- Fourth hypotheses (**H_4**):

  H_{4a}: An organization's competitive strategy (as cost leadership, differentiation, and integrated strategy) has a positive influence on its organizational performance.

  H_{4b}: The positive influence of HRM practices on organizational performance will be stronger for organizations pursuing the cost leadership strategy than organizations that do not pursue the cost leadership strategy.

  H_{4b1}: The positive influence of HRM practices on organizational performance will be stronger for organizations pursuing the differentiation strategy than organizations that do not pursue the differentiation strategy.

  H_{4b2}: The positive influence of HRM practices on organizational performance will be stronger for organizations pursuing the integrated strategy than organizations that do not pursue the integrated strategy.

  H_{4c}: The positive influence of SCM practices on organizational performance will be stronger for organizations pursuing the cost leadership strategy than organizations that do not pursue the cost leadership strategy.

  H_{4c1}: The positive influence of SCM practices on organizational performance will be stronger for organizations pursuing the differentiation strategy than organizations that do not pursue the differentiation strategy.

  H_{4c2}: The positive influence of SCM practices on organizational performance will be stronger for organizations pursuing the integrated strategy than organizations that do not pursue the integrated strategy.

It is worth clarifying that the research hypotheses of this study can be tested using two perspectives: universal (behavioral) perspective and contingency perspective. Where, four hypotheses (H_{1a}, H_{1b}, H_2, and H_{4a}) measure the direct relationship between variables. Whereas, seven hypotheses (H_3, H_{4b}, H_{4b1}, H_{4b2}, H_{4c}, H_{4c1}, and H_{4c2}), measure the indirect relationship between testing variables. Finally, after the results of all these hypotheses are obtained, the answer to the general hypothesis (Hg) will be provided.

CHAPTER IV - RESEARCH METHODOLOGY

This study takes an integrative and fresh view into illuminating the processes that may happen in the "black box" between key strategic instruments, such as: HRM practices, SCM practices and competitive strategy, and their direct and indirect (mediated, moderated) influence on organizational performance.

The quantitative method, employing a positivist approach, is used for this study, where a cross-sectional research design linked with large-scale surveys via questionnaires helps to identify the possible cause-and-effect relations between research variables. Since, "a cross-sectional research design, includes more than one case, […], includes within its research participants groups of people or cases that can be compared […]" (Matthews & Ross, 2010, p. 121). In this vein, based on the characteristics of the current study, IBM SPSS Statistics program and AMOS as a powerful structural equation modeling software were used to analyze the data gathered by questionnaires. Whereas, the research strategy used is "evaluation strategy" – assessing the value of something with regard to the effect that it has on a situation, individual(s) or an organization (Matthews & Ross, 2010). Pursuing an evaluation strategy allows us to explain the relationships proposed in the framework model of this study, which are tested using the structural equation modeling. Since the explaining variable (dependent variable) is continuous, this study also uses classical linear regression - OLS regression as a standard mathematical-statistic method.

In line with the general research design of the current study, to obtain the research results, data gathered from questionnaires passed through several SPSS statistical software tests, such as: convergent and discriminant validity, t-test, ANOVA, correlation matrix, and regression analysis (including hierarchical linear regression). Additionally, AMOS 26 (Analysis of Moment Structures version 26) was used to validate the second-order constructs, measure the mediation effects and build the structural equation modeling.

It is worth emphasizing that existing literature was researched in order to identify the valid measures for constructs and adapt extant items, which indicates that primary and secondary data has been used to realize this study. Thus, the background of the research model and research hypotheses have been prepared analyzing secondary data in the existing literature, which consist of scientific publications and articles published by credible publishers, such as: Academy of Management, Elsevier, Emerald, Springer, Taylor & Francis, and so forth; and in reliable

databases, such as: Scopus, Web of Science, EBSCO, and Google Scholar was also used as a search engine. The starting point for the literature search were titles and abstracts of documents that appeared on search engines, using a variety of keywords: ("Human resource management practices" OR "Competitive strategy" OR "Supply chain management practices" OR "Relationship" OR "Mediation" OR "Moderation" OR "Contingency") AND "Performance" AND "Organizational performance" AND ("Model" OR "Integration" OR "Instruments" OR "Dimension" OR "Construct" OR "Method" OR "Concept"). Whereas, primary data was gathered from self-administered questionnaires distributed among a sample group of manufacturing organizations operating in the Republic of Kosovo. The data regarding manufacturing organizations was obtained from the Kosovo Agency of Statistics (KAS). Participating organizations were randomly chosen from manufacturing organizations evidenced on that list. The questionnaires were distributed, filled in and collected from July-September 2020.

The process of conducting this study includes seven phases: (1) examining the prior literature regarding HRM practices, SCM practices, competitive strategies and organizational performance, (2) discovering and analyzing existing literature for constructing an integrative conceptual model that fits with the research typology used in this study, (3) searching for elements (practices or dimensions) that each testable variable should contain, (4) preparing questionnaires based on the existing literature (finding dimensions/practices that each instrument must contain, and items that each practice or dimension should contain), (5) pre-pilot study, (6) pilot study, and (7) large-scale data analysis.

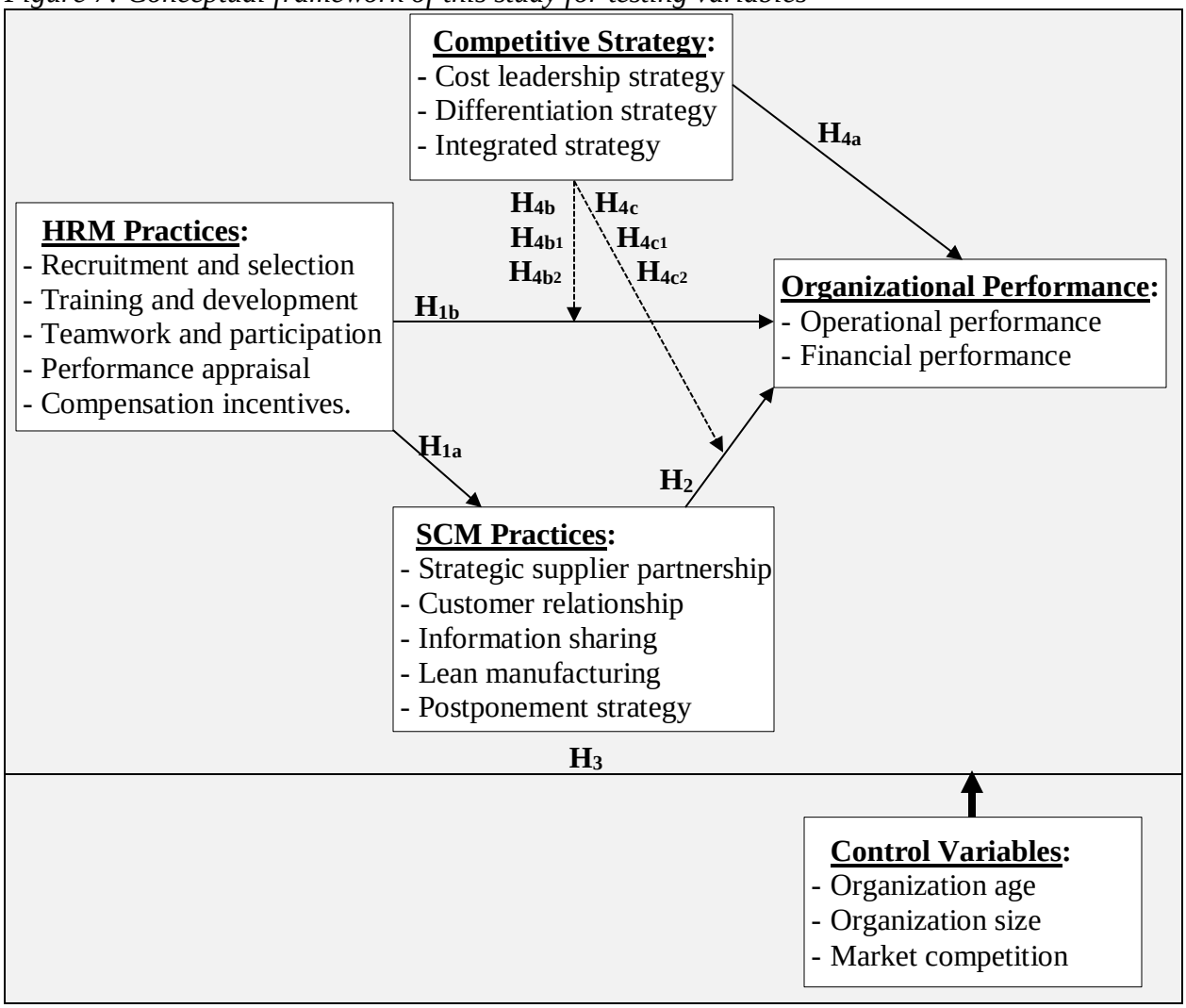
Therefore, the current study uses a combination of deductive, inductive, analytical and comparative analysis methods. Firstly, the deductive method is used as a basic method for exploring the literature, finding the literature causality and establishing the research hypotheses of this thesis. Thus, this method essentially starts from the scientific principles existing in the literature, through defining the content of the problem, determining the assumptions for its resolution, formulating research hypotheses and their interlaced testing, emphasizing the cause-effect relationships between research variables, and collecting representative materials of research study. Secondly, the inductive method, which is usually known as the method of inductive logic, is used in the final part of this study when the applicative dimensions of the research hypotheses are tested and discussed. So, the inductive method is used in the discussion

part, in explanations of the theoretical and managerial implications and in conclusions and future development of the field of strategic management with emphasis on strategic instrument integration. Recently, the dominant approach in scientific methodology is that serious studies inevitably should include deductive-inductive, analytical-synthetic and comparative analysis. Thirdly, the method of analysis aims to break down the dimensions of research study in order to draw relevant discursions and research implications. In contrast, the method of synthesis is used as an addition, which is the basis of general knowledge and helps to draw the conclusions. Fourthly, the method of comparative analysis is used to compare the effect of competitive strategies in the relationship between HRM practices and organizational performance, and between SCM practices and organizational performance. It compares the impact of using HRM and SCM practices on organizational performance between organizations that pursue a competitive strategy and those that do not pursue any competitive strategies.

4.1 Conceptual framework and general statistical research model

A visualization of the relationships between variables of the current study is shown in figure 7, i.e. the research framework. Indeed, the conceptual diagram underpins this study visually with hypotheses that put forward propositions about the relationship between variables. Therefore, testing it seeks to explore the possible relationship between variables, which aim to build a typology, or typical model, of the way that variables tend to be found in relation to each other in the current model. The conceptual framework of the current study contains four main variables: a) human resource management practices “HRM practices”; b) supply chain management practices “SCM practices”; c) competitive strategy; and d) organizational performance. Each of these variables contains several constructs/dimensions, whereas each construct is created by a group of items. Figure 7 shows the structure of research hypotheses that, as an image, present the path of the proposed relationship between variables.

Figure 7: Conceptual framework of this study for testing variables



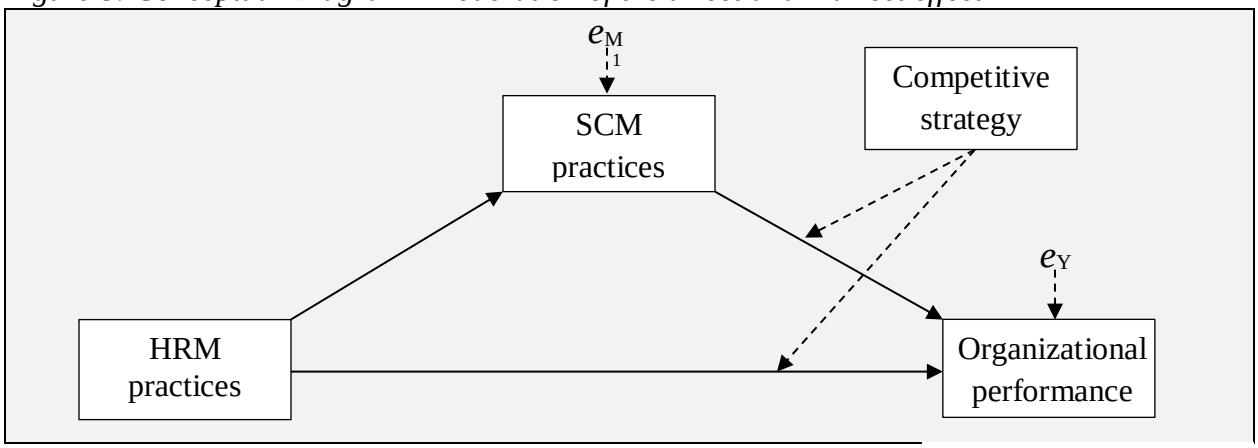
Source: author

Grounding in the hitherto practices and existing literature, when statistical software packages like SPSS and/or AMOS are used on testing variables, formulas or statistical models that explain the relationship between variables, are not necessarily required to be shown. However, the general research model is statistically presented for greater clarity.

Figure 8 shows the conceptual diagram – moderation of the direct and indirect effect of the research variables, which is adopted by Hayes (2015) and Hayes (2018). Only one research model is recommended for this kind of study (model 15 - conditional of the direct and indirect effect), which has been adopted for this study. It is worth clarifying that the current study pursues exactly the same process that Hayes (2018) suggests. Indeed, the adaptation is made only in the indicators (variables) where:

a) “X” in Hayes model corresponds to “HRM practices” in the current study (“X” = “HRMp”);
b) “M_i” in Hayes model corresponds to “SCM practices” in the current study (“M_i” = “SCMp”);
c) “V” in Hayes model corresponds to “competitive strategy” in the current study (“V” = “CS”);
and d) “Y” in Hayes model corresponds to “organizational performance” in the current study (“Y” = “OP”).

Figure 8: Conceptual Diagram - moderation of the direct and indirect effect



Source: author, structure adopted by Hayes (2018)

The conceptual diagram and statistical diagram of the current study are based on the moderation of the direct and indirect effect model, explained by Hayes (2015) and Hayes (2018, pp. 403-406). As depicted, “competitive strategy” moderates the indirect effect through moderation of the effect of “SCM practices” on “organizational performance”. At the same time, “competitive strategy” moderates the direct effect of “HRM practices” on “organizational performance”. The statistical diagram represents two equations, one for consequent “SCM practices” and one for consequent “organizational performance”. The equations corresponding to the model are:

$$\boldsymbol{SCMp} = i_{SCMp} + a_i HRMp + e_{SCMp} \quad \textbf{(1)}$$

$$\boldsymbol{OP} = i_{OP} + c_1'HRMp + c_2'CS + c_3'HRMp*CS + b_{1i}SCMp + b_{2i}SCMp*CS + e_{OP} \quad \textbf{(2)}$$

As in any mediation model, “HRM practices” exert their effect on “organizational performance” through both direct and indirect pathways. The direct effect links “HRM practices” to “organizational performance” independent of “SCM practices” and the indirect effect of “HRM practices” on “organizational performance” through “SCM practices” is, as always, the product of paths linking “HRM practices” to “organizational performance” through “SCM practices”. The first of these components of the indirect effect is the path from “HRM practices” to “SCM

practices", estimated as a_i in equation 1, and the second component is the path from "SCM practices" to "organizational performance". However, the effect of "SCM practices" on "organizational performance" (controlling for "HRM practices") is not b_{1i} in equation 2. Rather, the effect of "SCM practices" on "organizational performance" is a function of "competitive strategy" in this model, as revealed by rewriting equation 2 in an equivalent form (grouping terms involving "SCM practices" and factoring out "SCM practices"):

$$\boldsymbol{OP} = i_{OP} + c_1'HRMp + c_2'CS + c_3'HRMp*CS + (b_{1i} + b_{2i}CS)*SCMp + e_{OP}$$

Thus, the effect of "SCM practices" on "organizational performance" is $\Theta_{SCMp \rightarrow OP} = b_{1i} + b_{2i}CS$. It is a conditional effect that is a function of "competitive strategy". As a result, the indirect effect of "HRM practices" on "organizational performance" through "SCM practices" is also a function of "competitive strategy", with the function formed as the product of the effect linking "HRM practices" to "organizational performance" through "SCM practices". The result is the conditional indirect effect of "HRM practices" on "organizational performance" through "SCM practices":

$$\boldsymbol{a_i\Theta_{SCMp \rightarrow OP}} = a_i(b_{1i} + b_{2i}CS) = a_ib_{1i} + a_ib_{2i}CS \quad \textbf{(3)}$$

The direct effect of "HRM practices" on "organizational performance" is conditional too, as it is a function of "competitive strategy". It can be seen by rewriting equation 2 after grouping terms involving "HRM practices" and factoring out "HRM practices":

$$\boldsymbol{OP} = i_{OP} + (c_1' + c_3'CS)*HRMp + c_2'CS + b_{1i}SCMp + b_{2i}SCMp*CS + e_{OP}$$

or, equivalently,

$\boldsymbol{OP} = i_{OP} + \Theta_{HRMp \rightarrow OP}\ HRMp + c_2'CS + b_{1i}SCMp + b_{2i}SCMp*CS + e_{OP}$ where $\Theta_{HRMp \rightarrow OP}$ is the conditional direct effect of "HRM practices" on "organizational performance", defined as

$$\boldsymbol{\Theta_{HRMp \rightarrow OP}} = c_1' + c_3'CS \quad \textbf{(4)}$$

Based on the above statistical descriptions, it is concluded:

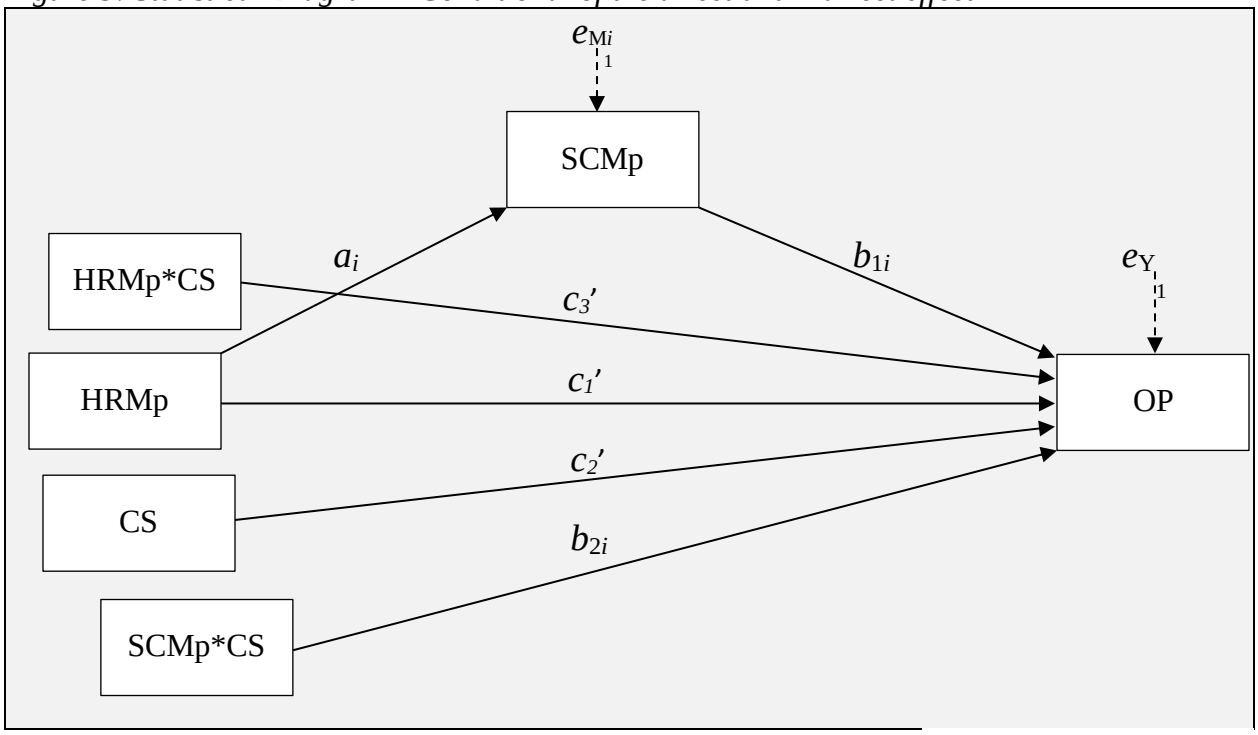
a) Conditional indirect effect of "HRM practices" on "organizational performance" through "SCM practices" = $a_i\ (b_{1i} + b_{2i}CS)$. This conditional indirect effect quantifies how differences in "HRM practices" map onto differences in "organizational performance" indirectly through "SCM practices" depending on the value of "competitive strategy". If the indirect effect of "HRM practices" differs systematically as a function of "competitive strategy", it can be said that the mediation of "HRM practices" effect on "organizational

performance" by "SCM practices" is moderated by "competitive strategy" – moderated mediation.

b) Conditional direct effect of "HRM practices" on "organizational performance" = $c_1' + c_3'CS$. So in this model, "HRM practices" exert their effect on "organizational performance" directly, with the magnitude of the direct effect being dependent on "competitive strategy".

Where (a_i), (c_1'), (c_2'), (c_3'), (b_{1i}), and (b_{2i}) are estimated regression coefficients, (i_{SCMp}) and (i_{OP}) are regression intercepts, and (e_{SCMp}) and (e_{OP}) are errors in estimation. "HRM practices" effect on "organizational performance" is linearly moderated by "competitive strategy" if the regression coefficient for HRMp*CS is different from zero by an inferential test or confidence interval. In this vein, the statistical diagram - conditional of the direct and indirect effect model is presented in figure 9.

Figure 9: Statistical Diagram – Conditional of the direct and indirect effect



Source: author, structure adopted by Hayes (2018)

4.2 Sample and data collection

Survey data was collected from manufacturing organizations in Kosovo over the last three years (Mach 2017 to March 2020). In this respect, it is worth answering three questions: why Kosovo? Why manufacturing organizations? And why the period of time from March 2017 to March 2020?

First, Kosovo is chosen as a research context, since organizations situated in Kosovo frequently encounter a high degree of turbulence, complexity, uncertainties, volatility and adverse conditions. This kind of uncertainty in the business environment of Kosovo originates equally from external and internal sources. External sources include regional volatilities and its "frozen status" in relation with some European Union countries. Furthermore, Kosovo's strategic position is both a curse and a blessing for organizations/businesses that operate in Kosovo. It has valuable natural resources such as minerals, forests, water and fertile land that occur in nature and can be used for economic gain. Such a location makes Kosovo a global competitor in the area of underground ore. However, Kosovo lies in an often contentious region, which is characterized by elevated levels of adversity that increases the uncertainties and risks involved in doing business. Internal sources of dynamism, turbulence, and uncertainty include sociopolitical volatility in Kosovo. Therefore, these circumstances make it necessary for organizations to integrate their strategic chains in order to survive or grow in the market.

Second, manufacturing organizations are chosen as a research sample, because this sector is ranked the second largest employer in Kosovo, and it is the most studied sector in many industrialized and transitional economies (Bowen & Schneider, 1988), which Kosovo is as well. Additionally, developed and developing countries alike have been trying to grow the manufacturing industry, as it is considered as a national strategic industry that provides economic stability (Islami et al., 2020b). Manufacturing has been considered the main engine of economic growth and development since the middle of the eighteenth century (Szirmai & Verspagen, 2015; Attiah, 2019). Thus, the current study focuses on Kosovo's manufacturing industry, identifying methods on how to improve and increase the performance and competitiveness of the manufacturing industry by creating and implementing an integrative organizational strategic model (Islami et al., 2020b), through aligning the organization's HRM practices, SCM practices

and its competitive strategy as key strategic instruments that influence organizational performance.

Third, there are two reasons this period of time is chosen as the object of this study: (a) as the questionnaires were distributed to respondent organizations in the middle of 2020, at a time when the economic consequences brought about by the coronavirus pandemic (COVID-19) were also felt by Kosovan organizations. Therefore, to eliminate the biases that may be caused by the "pandemic issue" in the final results of this study, the period of the year 2020 was removed from the questionnaires (the first case of COVID-19 in Kosovo was recorded in the middle of March 2020). And (b) the research variables in the study involve the use and benefits from their networking relationships prior to March 2020 (from March 2017 to March 2020), while organizational performance was measured for the period March 2019 to March 2020. Following the explanation of Acquaah (2007), it is reasonable to expect that preceding HRM practices, SCM practices and competitive strategy will have an impact on current organizational performance. For example, to establish causality, it is considered that the effects of the relationship between HRM practices, SCM practices and competitive strategy on organizational performance will be revealed after a period of time (e.g. if an organization decides to develop its employees using different training methods, the results of the training on organizational productivity will be revealed after a period of time). In this study, it was considered that the wholly effect of using the independent – HRM practices, mediator – SCM practices, and the moderator - competitive strategy as strategic instruments on organizational performance will be revealed after two years. In other words, manufacturing organizations were asked to specify the degree of implementation of HRM practices, SCM practices and competitive strategy before March 2020 (from March 2017 to March 2020), while organizational performance was measured using the responses for the period March 2019 to March 2020. Therefore, the reason two different periods were used to obtain the results of this study is that it makes this analysis more in-depth, provides more realistic results and it makes the study more reliable by reducing common method bias.

4.2.1 Questionnaire designed and measures

The existing literature was reviewed for this study in order to identify valid measures for relevant constructs and adapted existing scales to measure the study variables. Taking an interdisciplinary approach with a relational perspective of the current study, questionnaires were designed including four strategic instruments such as HRM practices, SCM practices, competitive strategy and organizational performance, which cover four organizational strategic perspectives. When the existing literature could not provide consistent and valid measures, new measures were developed, based on the author's understanding of the constructs, observations during company visits, and interviews with several high-level managers and academics. The constructs and measures used in this study are shown in Appendix 1.

The survey package was distributed to each of the participating organizations. Based on the existing literature and recommendations from practitioners, each survey package contained separate questionnaires administered to high and mid-level managers (dual respondents from each participant organization were required to be filled in), and financial managers (that were required to answer in a separate questionnaire, which contained only financial aspects of the respondent organizations). An integration of both research questionnaires contain seven sections: (1) Cover letter – that is attached to each questionnaire in order to explain the objective of the survey, assuring respondents of the confidentiality of their responses, benefits of the study, incentives to participate, the voluntary nature of participation in the survey, and a web address of the online version of the survey is provided in order for respondents to access and fill it in electronically; (2) general information for organizations; (3) competitive capacity of the market; (4) HRM practices, (5) SCM practices, (6) competitive strategies, and (7) organizational performance. Constructs/dimensions development methods for HRM practices, SCM practices, competitive strategy and organizational performance include four phases: item generation, pre-pilot study, pilot study, and large-scale data analysis.

Finally, a 95-item survey questionnaire was developed for managers in the Kosovan manufacturing industry about their views on various research variables. All the variables in our model were Likert measurement scales with anchor values of 1 to 7, except questions that require general information for organizations. Thus, respondents were asked to rate their opinions on this seven-point scale, where higher values indicated stronger integration or better performance.

Since the scales drawn from the existing literature were in English, to ensure the questionnaire's reliability, the English version was developed first, reviewed and then translated into Albanian by an English language expert and controlled by a knowledgeable Kosovan professor of management. The Albanian version was then translated back into English by a different professor of English and a professor of strategy fluent in the English language. The back-translated version was then checked against the original English version for inconsistencies. It is worth mentioning that, some questions in Albanian were reworded to better mirror the original meaning of the questions in English. The constructs used in this study were measured by a subset of perceptual items in the HRM, SCM, and competitive strategy databases. Therefore, most of the measurement items for these constructs were adapted from well-established instruments and dimensions/practices used in earlier studies.

4.2.1.1 Human resource management practices

The measures for HRM practices were mainly adopted from the existing literature (Ahmad & Schroeder, 2002; Singh, 2004; Lee et al., 2010; Amin et al., 2014; Otoo, 2019). HRM practices were treated as a second-order latent variable measured by five first-order latent variables: recruitment and selection, training and development, teamwork and participation, performance appraisal, compensation/incentives.

Items for these five constructs/dimensions were adopted/created as follows: (a) *recruitment and selection* – five measurement items for this construct/practice were adopted from Ahmad and Schroeder (2002), and were modified for the purposes of the current study; (b) *training and development* - five measurement items were adopted from studies by Singh (2004), Lee et al. (2010) and Otoo (2019), and were modified for the purposes of the current study; (c) *teamwork and participation* – five measurement items were adopted from studies by Singh (2004) and Lee et al. (2010), and were modified for the purposes of the current study; (d) *performance appraisal* - five measurement items were adopted from studies by Singh (2004) and Amin et al. (2014), and were modified for the purposes of the current study; and (e) *compensation/incentives* - five measurement items were adopted from studies by Singh (2004) and Lee et al. (2010), and were modified for the purposes of the current study.

Finally, a 25-item from five constructs was used to measure HRM practices. The respondents were asked to specify the degree to which HRM practices had been used within their organization in last three years (March 2017 to March 2020). Respondents indicated this on a seven-point Likert-type scale ranging from 1 – "not at all" to 7 – "to an extreme extent".

4.2.1.2 Supply chain management practices

The measures for SCM practices were mainly adopted from the existing literature (Shah & Ward, 2002; Tan et al., 2002; Chen & Paulraj, 2004; Li et al., 2005; Li et al., 2006; Wu et al., 2014; Jayaram et al., 2014). SCM practices were also treated as a second-order latent variable measured by five first-order latent variables: strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy.

Items for these five constructs/dimensions were adopted/created as follows: (a) *strategic supplier partnership* – five measurement items for this construct/practice were adopted from studies by Chen and Paulraj (2004) and Li et al. (2006), and were modified for the purposes of the current study; (b) *customer relationship* - five measurement items were adopted from Li et al. (2006), and were modified for the purposes of the current study; (c) *information sharing* – five measurement items were adopted from studies by Tan et al. (2002), Li et al. (2006) and Wu et al. (2014), and were modified for the purposes of the current study; (d) *lean manufacturing* - five measurement items were adopted from studies by Shah and Ward (2002), Li et al. (2005) and Jayaram et al. (2014), and were modified for the purposes of the current study; and (e) *postponement strategy* - five measurement items were adopted from studies by Li et al. (2005) and Li et al. (2006), and were modified for the purposes of the current study.

Finally, a 25-item from five constructs was used to measure SCM practices. Respondents were asked to indicate the degree to which SCM practices had been used within their organization in last three years (March 2017 to March 2020). Respondents indicated this on a seven-point Likert-type scale ranging from 1 – "not at all" to 7 – "to an extreme extent".

4.2.1.3 Competitive strategy

The current study follows Acquaah (2007) and Danso et al. (2019), where three dimensions of competitive strategies were used, such as: cost leadership strategy, differentiation strategy, and integrated strategy. Items for these constructs were adopted/created as follows: (a) an organization's cost leadership strategy was captured with six items that were adapted by Lee et al. (2010), Huo et al. (2014) and Danso et al. (2019), and were modified for the purposes of the current study; (b) an organization's differentiation strategy was captured with six items that were adapted by Acquaah (2007), Lee et al. (2010) and Danso et al. (2019), and were modified for the purposes of the current study; (c) to measure integrated strategy, are followed Aulakh et al. (2000), Acquaah (2007) and Danso et al. (2019). Thus, to examine the impact of the simultaneous implementation of cost-leadership and differentiation strategies in moderating the impact of HRM practices and SCM practices on organizational performance, two variables are included in separate models (Acquaah, 2007). First, an interaction between the cost-leadership and differentiation strategies is created (CosLea_x_DiffStr) using their centered variables (Aulakh et al., 2000), thus variables were de-meaned (Echambadi & Hess, 2007; Iacobucci et al., 2015; Hayes, 2018). Second, an integrated strategy is created using a categorical variable as follows: organizations that had greater composite values, for both the cost-leadership strategy and differentiation strategy, than the average (mean) of each individual strategy were considered to be pursuing an integrated strategy and were coded 1, while all others were coded 0 (Acquaah, 2007; Danso et al., 2019).

Finally, a 12-item from two constructs was used to measure dimensions of competitive strategies. In the questionnaire, the respondents were asked to indicate the significance of the listed competitive methods in their organization's general strategy in last three years (March 2017 to March 2020). Respondents indicated this on a seven-point Likert-type scale ranging from 1 – "most unimportant" to 7 – "most important".

4.2.1.4 Organizational performance

The present study followed Huo et al. (2014) and measured organizational performance using two dimensions, namely: operational performance and financial performance. Where,

organizational performance was treated as a second-order latent variable measured by two first-order latent variables: operational performance and financial performance.

The five operational performance measurement items (overall product quality; responsiveness to customers; customer service level; delivery speed; and delivery dependability) were adopted from Huo et al. (2014), and were modified for the purposes of the current study. The respondents, high-level or middle managers, were asked to indicate their performance on these items compared to their major industrial competitors for the year March 2019 to March 2020. Respondents indicated this on a seven-point Likert-type scale ranging from 1 – "much worse" to 7 – "much better".

The measures for financial performance measurement items were adopted from those featured in Flynn et al. (2010), Qi et al. (2011), Huo et al. (2014) and Gölgeci and Kuivalainen (2020). These self-reported financial performance measures were assembled from the organizations' financial managers by asking them to compare their individual organization's return on investment (ROI), growth in return on investment, growth in sales, return on sales (ROS), growth in return on sales, growth in market share, and growth in profit, to their major industrial competitors for the year March 2019 to March 2020. Respondents indicated this on a seven-point Likert-type scale ranging from 1 – "much worse" to 7 – "much better".

The current study follows the method used by Acquaah (2007), Danso et al. (2019) and Gölgeci and Kuivalainen (2020), which used the perception measures to gauge financial performance since organizations in developing countries are disinclined to reveal their objective financial performance details. Thus, "I therefore relied on the firms' subjective evaluation of their performance relative to competitors" (Acquaah, 2007, p. 1244).

4.2.1.5 Control variables

In this study, several other variables are controlled including organization age, organization size and market competition, which are likely to influence our results.

Organization age – includes the number of years the participant organization has operated, to test whether older organizations implement more HRM practices, SCM practices, competitive strategy, and perform better than the younger ones. It has been demonstrated that an organization's age has an impact on organizational performance, where older organizations are

more profitable and less productive (Majumdar, 1997), compared to newer organizations. Following Majumdar (1997), Akgün et al. (2012) and Danso et al. (2019), a natural logarithmic transformation of the number of years since the business was established was used to account for the curvilinear relationship between age and structural complexity.

Organization size – the size of an organization affects performance in many ways (Majumdar, 1997). Thus, it is controlled for organization size because it may impact financial resources (Brammer & Millington, 2006), where larger firms are more productive and less profitable (Majumdar, 1997). Additionally, larger organizations are more likely to influence the implementation of supply chain compared to smaller organizations because they possess the resources and capabilities necessary to execute complex processes across partners (Li et al., 2006; Wu & Chang, 2012). Organization size was included as the participant organization's number of employees in our analyses, to test whether it explains some of the variations in HRM practices, SCM practices, competitive strategy and organizational performance. Organization size was measured as the natural logarithmic transformation of the number of full-time employees (Sun et al., 2007; Sheng et al., 2011; Danso et al., 2019).

Market competition – is included as a control variable as the organizations that operate in high dynamic industries have a shorter product life cycle (Koufteros et al., 2007), and show higher revenue volatility and customer turnover compared to those in low dynamic industries (Wu et al., 2014). In the dynamic market, SCM is indicated as an important means to improve customer responsiveness, flexibility and time-to-market (Tan et al., 2002). This study followed Acquaah (2007), where respondents were asked to indicate the degree to which the activities (an increase in the number of major competitors; the frequency of technological change; the use of package deals for customers; the frequency of new products or service introductions; an increase in the number of companies who had access to the same marketing channels; the rate of change in price manipulations; and the frequency of changes in government regulations affecting the industry) had taken place in their organization's industry between March 2017 and March 2020. These activities were measured on a seven-point scale ranging from 1 - "very little" to 7 – "very extensive".

4.2.2 Pre-pilot study and pilot study

The survey used for this study is designed in line with procedures suggested by Podsakoff et al. (2003), which have previously been successfully implemented in other management and strategic research (e.g. see Flynn et al., 2010; Huo et al., 2014; Danso et al., 2019; Gölgeci & Kuivalainen, 2020). The contents of the survey were validated through a series of activities with academics and practitioner experts in its various sections.

In the pre-pilot study, research items were reviewed by fifteen doctoral and master's students of the management department, four academicians/professors (one strategic management professor, one human resource management professor, one operational management professor and one financial management professor), and re-evaluated through structured interviews with two practitioners who were asked to remark on the appropriateness of the research constructs. Based on their feedback, the wording of some questions and unclear items were either revised or removed, in order to ensure that the items were understandable and relevant to practices in Kosovo. Next, the first version of the questionnaire was pre-tested in ten manufacturing organizations from Kosovo, which involved face-to-face discussions. Their suggestions were integrated into the second version of the survey.

The pilot study stage followed Li et al. (2006), where the Q-sort method was used to pre-assess the convergent and discriminant validity of the scales. Human resource managers were asked to act as judges and categorize the items into the five dimensions of HRM practice, based on similarities and differences among them. Purchasing/production managers were asked to act as judges and categorize the items into the five dimensions of SCM practice, based on similarities and differences among them. A strategic manager was asked to act as a judge and place the items into the two dimensions of competitive strategy and into the operational performance dimension, based on similarities and differences among them. And financial managers were asked to act as judges and place the items into the dimension of financial performance, based on similarities and differences among them.

To evaluate the reliability of the sorting conducted by the judges, two different measures were used, such as: (a) the inter-judge raw agreement scores – that were calculated by counting the number of items both judges had placed in the same category, and (b) Cohen's Kappa - that was used to evaluate the true agreement score between two judges by eliminating chance agreements

(Li et al., 2006). In the first round, the inter-judge raw agreement scores averaged (0.86), whereas the Cohen's Kappa score averaged (0.82). Following the guidelines of McHugh (2012) for interpreting the Kappa coefficient, the value of (0.82) was considered an excellent (strong) level of agreement (beyond chance) for the judges in the first round. An examination of the off-diagonal entries in the placement matrix was conducted in order to improve the Cohen's Kappa measure of agreement. Items classified in a construct different from their target construct were identified and removed or reworded. Additionally, feedback from both judges was obtained on each item and integrated into the modification of the items. The reworded items were then entered into a second sorting round. In the second round, the inter-judge raw agreement scores averaged (0.93), and the Cohen's Kappa score averaged (0.91), which value according to McHugh (2012), was considered an almost perfect level of agreement (beyond chance) for the judges. At this stage, the statistics suggested an excellent level of inter-judge agreement indicating a high level of reliability and construct validity. The data collected from the pilot tests was also used to check the content validity of the measures.

4.2.3 Large scale method

The manufacturing industry in Kosovo is diverse in terms of product or process complexity, and sub-sectors. The sampling frame used for the purposes of this study was based on the registry of the Kosovo Agency of Statistics (KAS), which is a Kosovan national statistics bureau officially created in 1948, but resumed its work as an independent agency in 1999. Where, 600 organizations that met our selection criteria were randomly selected among a total of 10,190 organizations registered within KAS. Of the 600 manufacturing organizations randomly selected from the database, only 447 companies had updated contact information. It was made sure that firms that were contacted had a minimum of ten full-time employees, whereas the maximum number was not limited. Following Jayaram et al. (2014) and Gölgeci and Kuivalainen (2020), the respondents sought in these organizations were those high and mid-level managers that have inclusive responsibilities enabling them to have a clear understanding and a complete view of the organization's strategy and functioning, and financial managers that oversee financial aspects of the organizations.

The data was collected during the period of July-September 2020. Two stages of data collection were employed for this study (Danso et al., 2019), with a two month time lag. Gathering data from respondents passed through two waves. In the first wave, following Gölgeci and Kuivalainen (2020), dual respondents from each participant organization were required, where high and mid-level managers of 447 organizations were approached in person with an online questionnaire to obtain information on HRM practices, SCM practices, competitive strategy and operational measures. In this vein, it is worth highlighting that gathering dual respondents from each participant organization could foster the accuracy of data collected on competitive strategy as a crucial moderator, "[…] because having dual respondents with complementary perspectives enables understanding organizational dynamics better than having one respondent" (Gölgeci & Kuivalainen, 2020, p. 68).

The questionnaires were mailed, along with a cover letter clarifying the study's objectives, ethical issues, confidentiality of using their data and potential contributions. Follow-up telephone calls and mailings were used to improve the response rate, as is suggested by Frohlich (2002). A total of 346 responses were obtained from 173 organizations, with an effective response rate of 29% (173/600 = 29%) of the total sample or 39% (173/447 = 39%) of the contacted sample, which was deemed adequate for our study. After screening, two of the questionnaires were found to be incomplete, and six organizations returned surveys with a single response. These questionnaires were rejected, leaving 165 usable responses. In order to assess consistency and equivalence, the responses of two key managers in each organization were merged to create an average and arrive at an organization-level unit of analysis (Gölgeci & Kuivalainen, 2020).

The second wave of the survey was carried out two months after the first. At this stage, only the finance managers of the 165 organizations were contacted in person to tap financial performance measures. A total of 161 questionnaires were obtained from the finance managers, four of which had not been filled in and were discarded. Finally, 157 samples were used in our subsequent analyses, with an effective response rate of 26% (157/600 = 26%) of the total sample or 35% (157/447 = 35%) of the contacted sample, which was deemed adequate for our study.

Key characteristics of the sample organizations are summarized in Table 1. The results show that a large percentage of our respondents are from the construction and food sectors. Over half of the responding organizations had less than 49 employees, and about 43 percent had over 20 years of work experience. Our analysis shows that the responding organizations had adopted at least one

international quality standard, such as: ISO 9001: 2000, ISO 9001: 2015, ISO/TS 16949: 2002, and other quality management standards.

Table 1: Characteristics of sample organizations (N=157).

Characteristics	Number	Percent (%)
Industry sector		
Food	31	19.7 %
Textile	7	4.6 %
Construction	63	40.2 %
Wood	15	9.8 %
Metal	11	7.1 %
Plastic	6	3.9 %
Chemical	5	2.6 %
Other	19	12.1 %
Number of employees		
10–49	96	61.2 %
50-249	57	36.3 %
≥250	4	2.5 %
Firm age		
≤10	49	31.2 %
11–20	41	26.1 %
>20	67	42.7 %
Annual revenue (2019 value)		
≤ €1 million	71	45.5 %
€1 million–10 million	80	51.3 %
>€10 million	5	3.2 %
ISO - (Quality management systems)		
ISO 9001: 2000	87	55.4 %
ISO 9001: 2015	16	10.2 %
ISO/TS 16949: 2002	7	4.5 %
Other standards	47	29.9 %

Source: author

4.2.4 Non-response bias and common-method bias

This study did not investigate non-response bias directly since the mailing list only had the names and addresses of the organizations and no additional organizational details, which is a

procedural remedy for reducing common method bias (Podsakoff et al., 2003; Podsakoff et al., 2012). Moreover, the current study addressed potential non-response bias during the data collection process through several means. Firstly, a comparatively high response rate, 26% of the total sample and 35% of the contacted sample, indicated that respondents were likely to make up a reasonable level of representativeness of the total sample base used in this research and remedy potential non-response bias (Podsakoff et al., 2003; Rose et al., 2007).

Secondly, following the same method used by Li et al. (2006), Huo et al. (2014), and Gölgeci and Kuivalainen (2020), a comparison was made between those subjects that submitted their responses after the initial mailing and those that responded to the late wave. Using the Chi-square statistic and ($p < .05$), it was found that there were no substantial differences between the two groups relating to respondents' demographic information such as employment size, annual sales volume, organization age and respondent's job title, as the chi-square test result was ($x^2=1.17$). Also, an independent z-test showed no substantial differences, demonstrating that early and late response bias was not a major concern in this study. Therefore, an absence of non-response bias suggested that our sample was not biased toward any particular industry.

Thirdly, to mitigate the possibility of common method bias (Podsakoff et al., 2003), dual respondents from each participant organization were required to be included in the final analysis for all variables except financial performance (Gölgeci & Kuivalainen, 2020). The issue of common source bias is a critical one, and can arise when the same respondent provides the measure of predictor and criterion variables (Podsakoff et al., 2003), who stressed that such issues may be expected to be minimized by tacking two responses from two different respondents of the same organization.

Fourthly, in addition to procedural remedies, Harman's single-factor test is used as a statistical remedy, which is the most popular in identifying common-method bias (Podsakoff et al., 2003). Thus, a single-common-method factor was applied to examine common-method bias, using EFA, comparing a single-factor model with the original measurement model. The results showed that no single factor is found to explain more than fifty percent (>50%) of the variance. Consequently, there was no serious common-method bias in this study.

4.3 Research variables

Table 2 shows a clear image for research variables and their constructs that are used in the present study. It makes clear for readers the role and order of variables on this model. In the model, there are three second order constructs: human resource management practices, supply chain management practices and organizational performance. These three second-order constructs were derived from five first-order constructs (recruitment and selection, training and development, teamwork and participation, performance appraisal and compensation incentives) "HRM practices", five first-order constructs (strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy) "SCM practices", and two first-order constructs (operational performance and financial performance) "Organizational performance". Therefore, these second-order constructs are reflective variables in this study. It is worth noting that the second-order constructs are created since the first-order constructs were "factor scores".

Similarly, two contingency variables (cost leadership strategy, differentiation strategy), and market competition were included and measured in the model as a first-order construct. Whereas, variables, such as organization size and age, were treated as items in the final model.

Table 2: Summary constructs of the current study

Constructs order	Measure(s) of performance	HRM practices variables	Mediation variables	Contingency variables	Control variables	Country
	A composite average perceptual measure of:					
Second order/latent	• Organizational performance	• HRM practices	• SCM practices			
First order/latent	• Operational performance • Financial performance	• Recruitment and selection • Training and development • Teamwork and participation • Performance appraisal • Compensation incentives.	• Strategic supplier partnership • Customer relationship • Information sharing • Lean manufacturing • Postponement strategy	• Cost leadership strategy • Differentiation strategy • Integrated strategy	• Firm age • Firm size (number of employees) • Market competition	Kosovo
Items/ observe	Items of each dimension that are presented in Appendix 1					

Source: author

CHAPTER V - DATA ANALYSES AND RESULTS

The present study on data analysis and results has passed through processes that contain several steps. Firstly, a data screening was done in order to arrange the variables and cases observed (i.e., missing data in rows, missing data in columns, unengaged responses).

Secondly, the purification and reliability of the measurement variables were checked using the exploratory factor analysis (EFA) technique. Hence, to purify the measurement scales and identify their dimensionality, a maximum likelihood factor analysis with promax rotation was applied to condense the collected data into certain first and second-order constructs/factors. After the factor analysis was done, an internal consistency analysis (Cronbach's alpha) and correlation were testified to confirm the reliability of each research first and second-order construct. Based on the guidelines for identifying significant factor loadings based on the sample size (Hair et al., 2019), a factor loading from .45, in order to be significant at .05 significance level (*a*), it needs a sample size that varies from 150 to 200 respondents. Thus, in this study, for first-order and second-order factors, measurement items with a factor loading greater than 0.45 were selected as the member of a specific factor.

Thirdly, the confirmatory factor analysis (CFA) technique was used to measure the first-order and second-order constructs model. Finally, hierarchical regression analysis and the Structure Equation Model (SEM) were used to test the hypotheses. SEM encompasses an entire family of models known by name, among them covariance structure analysis, latent variable analysis and confirmatory factor analysis (Lee et al., 2010). Also, it can be used as a means of estimating other multivariate models, including regression. The IBM SPSS AMOS 26 package software was used to analyze the relationships in the entire research model to find out the interactions among variables in this model. The cutoff criteria for fit indexes in covariance structure analysis that are used in this study were adopted from Hu and Bentler (1999) and Hair et al. (2019). To measure the model fit this study used six criteria:

a) chi-square divided by degree of freedom (x^2/df) - threshold for a good model fit is from 1 to 3 (<3 is good);
b) Incremental Fit Index (IFI) - threshold for a good model fit is close to .95 (> 0.95 is great);

c) Non-normed Fit Index (NNFI) - threshold for a good model fit is close to .95 (> 0.95 is great);
d) Comparative Fit Index (CFI) - threshold for a good model fit is close to .95 (> 0.95 is great; > .90 is traditional; > .80 sometimes permissible);
e) Root Mean Square Error of Approximation (RMSEA) – threshold for an appropriate model fit is close to .06 (< 0.05 is good; < 0.05 - 0.10 is moderate; > .10 is bad); and
f) Standardized Root Mean Square Residual (SRMR) - threshold for a good model fit is close to .08 (< 0.08 is good).

5.1 Data screening

Two kinds of screening data were used to arrange the variables observed: (a) case screening – which consists of three issues as: missing data in rows, unengaged responses and outliers (on continuous variables), and (b) variable screening – which consists of two variable issues as: missing data in columns and Skewness & Kurtosis. In this vein, there were no "missing data in row" and "missing data in columns" observed in the dataset since the questions used in the online survey were made mandatory. Thus, the respondent must have filled in the previous questions in order to move on to the following question. Moreover, no outlier or unengaged respondent was identified, therefore no respondent was removed due to not being engaged.
Additionally, in the data observed for Skewness & Kurtosis – fairly normal distributions were observed for indicators of latent constructs, and for all other variables (e.g., age, size) in terms of skewness. The skewness values varied between (-2.9) to (0.3), which are more relaxed values than threshold (-3) to (+3) (Sposito et al., 1983; Kline, 2015). While the kurtosis values varied from (-1.1) to (+11). Thus, mild kurtosis was observed for four indicators of the dependent variable "operational performance" (OpePer_1, OpePer_2, OpePer_3, OpePer_5), and for two indicators of the mediator "supply chain management practices" (SupPar_1, CusRel_4), these six kurtosis values ranged from 5 to 11. Since these values violate strict rules of normality (Hair et al., 2019), a two-step approach was applied for transforming continuous variables to normal according to Templeton (2011) for these six indicators. After normalizing these six high kurtosis value items, the model to measure skewness & kurtosis indexes was run. Finally, it was found that the extreme values of skewness and kurtosis shrank, which varied from (-2.2) to (0.3) for

skewness respectively from (-1.7) to (4.5) for kurtosis, which are within more relaxed rules suggested by Kline (2015) who recommended the threshold for normality (±3) for skewness and (±10) for kurtosis[3].

5.2 Reliability and validity

A rigorous process is used to verify the dimensionality and reliability of the research constructs. Based on previous practices used by Flyn et al. (2010), Huo et al. (2014) and Huo et al. (2015) prior to data collection, content validity was established through a domain search of the literature, an iterative construct review by domain experts, careful synthesis and critical evaluation of existing constructs executive interviews, pre-pilot study and pilot study. After data collection, several purification processes and analyses to test the reliability and validity of the constructs were conducted, including factor analysis, means, standard deviations, internal consistency analysis (Cronbach's alpha) and correlation analysis.

In the current study, two types of factor analysis are employed: (a) exploratory factor analysis (EFA), and (b) confirmatory factor analysis (CFA). Based on the complexity of this study two levels of latent constructs/variables exist, first-order and second-order constructs. The analysis is likewise so complex the validity for both levels of constructs requires to be argued. The content of the first-order and second-order constructs are presented in Appendix 1, which shows the multiple items representing each of the constructs. The statistical analysis used to determine the reliability and validity of each construct is discussed in the following section.

5.2.1 Convergent and discriminant validity of the first-order constructs

An exploratory factor analysis (EFA) of the constructs was performed to ensure the unidimensionality of the scales. Specifically, to detect the underlying dimensions a maximum likelihood factor analysis with promax rotation was used. For simplicity, only loadings above .45 (>0.45) (Hair et al., 2019) are displayed in Tables 3a - 3e. Additionally, latent roots

[3] The frequency analysis of the data is available from the author upon request.

(eigenvalues), scree test and other criteria were used to determine the number of dimensions to be extracted from the maximum likelihood factor analysis.

For HRM practices (HRMp), a factor analysis was initially conducted using the 25 items that measure the five factors (first-order constructs). An initial factor analysis indicated that items: RecSel_5, TraDev_1, TeaPar_4, and TeaPar_5 had a low-loading on their respective factors, whereas item ComInc_1 had a cross-loading of .69 with PerApp factor. After removing these five items, the twenty remaining items were factor analyzed and the results indicated that all items loaded on their respective factors with loadings above the recommended cut-off value of .45 (most of items loaded above 0.60), all of the *t*-values were greater than 2.0 (>2.0) (Vickery et al., 2003; Huo et al., 2015), and none of the items cross-loaded on other factors, as shown in Table 3a. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value suggests that the use of factor analysis was appropriate as it is greater than 0.8 (> 0.80) (Kaiser, 1974), and it is reaffirmed by the value of Bartlett test for sphericity which indicated that the data is acceptable according to Hair et al. (2019). Additionally, eigenvalue, percentage of variance, and cumulative percentage of variance of each construct is displayed. Where, the cumulative variance explained by the five factors is 64.72%.

Table 3a: Measurement items (with factor loadings) for first-order constructs of HRM practices.

KMO test			0. 858		>0.80[a]
Bartlett test	Approx. $\chi 2$		2126.035		
	df		190		
	Sig.		0.000		<0.05[a]
HRM practices	Factor loadings [b]	*t*-value [b]	Eigenvalue	% of variance	Cumulative % of variance
Recruitment and selection			1.140	5.699	56.401
RecSel_1	.597	9.427			
RecSel_2	.943	12.475			
RecSel_3	.707	10.160			
RecSel_4	.525	6.191			
Training and development			1.558	7.792	50.702
TraDev_2	.679	10.617			
TraDev_3	.942	12.601			
TraDev_4	.568	11.416			
TraDev_5	.754	13.179			
Teamwork and participation			.681	3.407	64.716
TeaPar_1	.574	9.610			
TeaPar_2	.836	14.315			
TeaPar_3	.927	13.919			
Performance appraisal			8.582	42.910	42.910
PerApp_1	.641	11.932			
PerApp_2	.968	11.928			
PerApp_3	.583	9.530			
PerApp_4	.676	12.489			
PerApp_5	.712	12.886			
Compensation/incentives			.982	4.908	61.309
ComInc_2	.787	11.793			
ComInc_3	.609	9.639			
ComInc_4	.705	11.829			
ComInc_5	.711	12.917			

Note: [a] The cutoff values suggested by Hair et al. (2019) *Source: author*

[b] All loadings are significant at $p < .001$(***).

The SCM practices (SCMp) construct was also initially represented by 5 dimensions and 25 items. An initial factor analysis indicated that six items: SupPar_1, CusRel_1, LeaMan_1, PosStr_3, PosStr_4, and PosStr_5 had a low-loading on their respective factors. After removing these six items, the nineteen remaining items were factor analyzed and the results indicated that all items loaded on their respective factors with loadings above the recommended cut-off value of .45 (most of items loaded above 0.60), all of the *t*-values were greater than 2.0, and none of the items cross-loaded on other factors. The KMO and the Bartlett test results indicated that the

data acceptable, such as KMO is .867 and Bartlett test is 1898.882. Also, eigenvalue, percentage of variance, and cumulative percentage of variance of each construct is displayed in Table 3b, showing that the cumulative variance explained by the five factors is 65.04%.

Table 3b: Measurement items (with factor loadings) for first-order constructs of SCM practices.

KMO test			0.867		>0.80
Bartlett test	Approx. $\chi 2$		1898.882		
	df		171		
	Sig.		.000		<0.05
SCM practices	Factor Loadings [b]	t-value	Eigenvalue	% of variance	Cumulative % of variance
Strategic supplier partnership					
SupPar_2	.883	11.762	1.254	6.602	60.351
SupPar_3	.757	10.319			
SupPar_4	.682	10.752			
SupPar_5	.588	7.654			
Customer relationship			6.457	33.986	47.803
CusRel_2	.970	10.759			
CusRel_3	.782	12.085			
CusRel_4	.519	12.713			
CusRel_5	.921	13.164			
Information sharing			2.625	13.817	13.817
InfShar_1	.611	12.482			
InfShar_2	.928	14.604			
InfShar_3	.846	11.517			
InfShar_4	.760	10.062			
InfShar_5	.780	8.982			
Lean manufacturing			1.130	5.945	53.748
LeaMan_2	.886	11.970			
LeaMan_3	.910	13.139			
LeaMan_4	.536	8.452			
LeaMan_5	.495	6.812			
Postponement strategy			.891	4.691	65.042
PosStr_1	.764	8.454			
PosStr_2	.992	10.251			

Note: [b] All loadings are significant at p < .001 (***). *Source: author*

The competitive strategy (CS) construct was initially represented by two dimensions and 12 items. An initial factor analysis indicated that two items: CosLear_5 and DiffStr_3 had a low-loading on their respective factors. After removing these two items, the remaining items were factor analyzed and the results indicated that all items loaded on their respective factors with most loadings above the recommended cut-off value of .45 (most of items loaded above 0.60), all

of the *t*-values were greater than 2.0, and none of the items cross-loaded on other factors. The KMO and the Bartlett test results indicated that the data acceptable, such as KMO is .890 and Bartlett test is 855.213. Additionally, eigenvalue, percentage of variance, and cumulative percentage of variance of each construct is displayed in Table 3c, showing that cumulative variance explained by the two factors is 58.424%.

Table 3c: Measurement items (with factor loadings) for first-order constructs of competitive strategy

KMO test			0.890		>0.80
Bartlett test	Approx. $\chi 2$		855.213		
	df		45		
	Sig.		.000		<0.05
Competitive strategy	Factor Loadings [b]	*t*-value	Eigenvalue	% of variance	Cumulative % of variance
Cost-leadership strategy			1.034	10.341	58.424
CosLea_1	.786	9.513			
CosLea_2	.950	13.595			
CosLea_3	.638	13.246			
CosLea_4	.605	10.995			
CosLea_6	.578	6.043			
Differentiation strategy			4.808	48.083	48.083
DiffStr_1	.512	9.628			
DiffStr_2	.702	10.791			
DiffStr_4	.761	12.163			
DiffStr_5	.943	11.754			
DiffStr_6	.802	9.465			

Note: [b] All loadings are significant at $p < .001$ (***). *Source: author*

When organizational performance (OP) was factor analyzed, two factors emerged with one over-loading item (OpePer_3 over-loaded its factor). OpePer_3 was removed and factor analysis was performed on the remaining items, and the results are shown in Table 3d. It can be seen that all items loaded on their respective factors, with most loadings above .60 and all of the *t*-values were greater than 2.0. The KMO and the Bartlett test result indicated that the data acceptable, (KMO is .852, Bartlett test 1080.784). Additionally, eigenvalue, percentage of variance, and cumulative percentage of variance of each construct is displayed in Table 3d. The cumulative variance explained by the two factors is 58.750 %.

Table 3d: Measurement items (with factor loadings) for first-order constructs of organizational performance.

KMO test			0.852		>0.80
Bartlett test	Approx. $\chi 2$		1080.784		
	df		55		
	Sig.		.000		<0.05
Organizational performance	Factor Loadings [b]	*t*-value	Eigenvalue	% of variance	Cumulative % of variance
Operational performance			1.482	13.473	58.750
OpePer_1	.684	9.820			
OpePer_2	.743	11.321			
OpePer_4	.870	12.665			
OpePer_5	.995	14.231			
Financial performance			4.980	45.277	45.277
FinPer_1	.689	8.765			
FinPer_2	.837	9.186			
FinPer_3	.658	12.695			
FinPer_4	.701	7.877			
FinPer_5	.680	6.391			
FinPer_6	.607	11.261			
FinPer_7	.722	8.542			

Note: [b] All loadings are significant at $p < .001$ (***). *Source: author*

Finally, the market competition (MC) construct was initially represented by one dimension and seven items. An initial factor analysis indicated that one item: MarCom_2 had a low-loading on its factor. After removing this item, the remaining items were factor analyzed and the results indicated that all items loaded on its factor, with most loadings above .60 and all of the *t*-values were greater than 2.0. The KMO and the Bartlett test results indicated that the data acceptable, as KMO is .801 and Bartlett test is 277.810. Also, eigenvalue, percentage of variance, and cumulative percentage of variance of each construct is displayed in Table 3e.

Table 3e: Measurement items (with factor loadings) for market competition

KMO test			0.801	>0.80[a]
Bartlett test	Approx. $\chi 2$		277.810	
	df		15	
	Sig.		.000	<0.05[a]

Market competition	Factor Loadings [b]	*t*-value	Eigenvalue	% of variance	Cumulative % of variance
Market competition			3.061	51.022	51.022
MarCom_1	.689	8.935			
MarCom_3	.615	6.860			
MarCom_4	.537	5.573			
MarCom_5	.658	8.693			
MarCom_6	.763	10.279			
MarCom_7	.580	7.303			

Note: [b] All loadings are significant at $p < .001$ (***). *Source: author*

Then, the reliability test for each construct was calculated. To discuss assessing the reliability of the constructs, this study follows Li et al. (2006), where the reliabilities of HRM practices, SCM practices, competitive strategies, organizational performance and market competition were assessed with Cronbach's alpha. Tables (4a–4e) report the number of items and reliability values for each of the constructs, means and standard deviations. The reliability values for all constructs were higher than the suggested threshold of 0.7 (>.70), which are considered acceptable (Nunnally, 1978; Flynn et al., 1990; Wu, 2005; Hair et al., 2019) and further confirms the reliability of the measurement items.

Table 4: Means, standard deviations and reliability of the first-order constructs of (a) HRM practices, (b) SCM practices, (c) competitive strategy, (d) organizational performance and (e) market competition.

Construct	# Items	Cronbach's alpha (reliability)	Mean	St. Dev.
(a) HRM practices				
1. Recruitment and selection (RS)	4	.784	5.076	.932
2. Training and development (TD)	4	.873	3.938	.974
3. Teamwork and participation (TP)	3	.870	4.325	.961
4. Performance appraisal (PA)	5	.897	5.387	.961
5. Compensation/incentives (CI)	4	.855	5.771	.971
(b) SCM practices				
1. Strategic supplier partnership (SSP)	4	.820	4.678	1.012
2. Customer relationship (CR)	4	.905	5.069	.596
3. Information sharing (IS)	5	.892	4.552	.632
4. Lean manufacturing (LM)	4	.804	5.240	.794
5. Postponement strategy (PS)	2	.865	5.120	1.575
(c) Competitive strategy				
1. Cost-leadership strategy (CL)	5	.847	5.487	.957
2. Differentiation strategy (DI)	5	.860	6.113	.959
(d) Organizational performance				
1. Operational performance (OP)	4	.878	5.943	.653
2. Financial performance (FP)	7	.878	5.130	.736
(e) Market competition (MC)	6	.802	4.575	.904

Source: author

Then, the confirmatory factor analysis (CFA) measurement models (Gölgeci & Kuivalainen, 2020) were run to estimate first-order construct validity. The results indicated that for all constructs, the composite reliability (CR) and average variance extracted (AVE) estimates were above the recommended thresholds of 0.7 and 0.5, respectively, which indicates convergent validity (Bagozzi & Yi, 2012). Then, discriminant validity was evaluated and showed that the square roots of AVE on diagonal were greater than correlations in all cases (Tables 5a-5e), as a result discriminant validity was confirmed.

Table 5: Convergent and discriminant validity of the first-order factors.[a]

Construct	CR[b]	AVE[c]	RS	TD	TP	PA	CI
(a) HRM practices							
Recruitment and selection	.801	.510	*.714*				
Training and development	.890	.670	.411***	*.818*			
Teamwork and participation	.877	.707	.598***	.610***	*.841*		
Performance appraisal	.898	.639	.627***	.569***	.675***	*.799*	
Compensation/incentives	.875	.638	.570***	.484***	.499***	.732***	*.799*
Construct	CR	AVE	SSP	CR	IS	LM	PS
(b) SCM practices							
Strategic supplier partnership	.830	.552	*.743*				
Customer relationship	.896	.682	.523***	*.826*			
Information sharing	.890	.621	.519***	.763***	*.788*		
Lean manufacturing	.821	.543	.486***	.654***	.525***	*.737*	
Postponement strategy	.882	.791	.282***	.286***	.230**	.399***	*.890*
Construct	CR	AVE	CL	DI			
(c) Competitive strategy							
Cost-leadership strategy	.861	.565	*.751*				
Differentiation strategy	.872	.579	.724***	*.761*			
Construct	CR	AVE	OP	FP			
(d) Organizational performance							
Operational performance	.886	.662	*.813*				
Financial performance	.865	.500	.641***	*.707*			
(e) Market competition	CR	AVE					
	.808	.415	*.644*				

[a] Italicized values on the diagonal are the square root of the AVE values. *Source: author*

[b] Composite reliability

[c] Average variance extracted.

** Correlation is significant at the .01 level (two-tailed); *** Correlation is significant at the .001 level (two-tailed).

5.2.2 Validation of second-order constructs

To analyze the validity and reliability of the second-order construct this study has followed Peng et al. (2007) and Huo et al. (2015). In second-order models, a second condition must be met for convergent validity, whereas the first-order factors "factor scores" must load significantly on their respective second-order factors. The CFA results presented in Tables 6a-6c show that the second-order factor loadings were greater than .45 (most of loadings were greater than 0.70), and all of the t-values were greater than 2.0, demonstrating convergent validity. The reliability values

for all constructs were higher than the suggested threshold of 0.7 (>.70), which confirms the reliability of the measurement items.

Additionally, this study measured the credibility for each second-order construct, using target coefficient index that compares first-order and second-order models (Li et al., 2006). The target coefficient index is the ratio of the chi-square of the first-order model to the chi-square of the higher-order model, and it is used to provide evidence of the existence of a higher order construct (Marsh & Hocevar, 1985). "It reflects the extent to which the higher-order factor model accounts for covariation among the first-order factors" (Doll et al., 1995, p 181). Thus, "the target coefficient can be interpreted as the percent of variation in the first-order factors that can be explained by the second-order construct" (Doll et al., 1995, p. 181; Li et al., 2006).

HRM practices (HRMp) was conceptualized as a second-order construct composed of five first-order factors. Structural equation modeling (using IBM SPSS AMOS 26) was used to determine whether a higher-order factor model is appropriate for HRM practices. The fit statistics for the second-order construct are shown in Table 6a, where (x^2/df, IFI, NNFI, CFI, RMSEA and SRMR) represent a reasonable (moderate) model-data fit (Hu & Bentler, 1999; Hair et al., 2019) or a good model fit according to Chambel et al. (2016). The coefficients were all significant at p <.001. Also, the target coefficient is calculated, which indicates that the chi-square of the first model was 359.816 and for the second model was 362.128. The target coefficient index is 99.3%, which is strong evidence of the existence of a higher-order HRM practices construct. Ninety-nine percent of the variation in the five first-order factors (Table 6a) is explained by the HRM practices construct.

For SCM practices (Table 6b), the fit indexes for the second order model were x^2/df = 1.545; IFI= .958; NNFI= .949; CFI= .957; RMSEA= .059; SRMR= .0586, indicating a good model-data fit (Hu & Bentler, 1999; Hair et al., 2019). The coefficients were all significant at p <.001. Chi-square of the first model was 208.637 and of the second model was 220.994. The target coefficient index is 94.4% indicating the existence of a second-order SCM practices construct. In this vein, it is worth noting that postponement is not as high as other first-order factors since it has a low γ of .36 on its factor SCMp. Thus, "[…] postponement may not be a strong indicator of SCM practice compared to the other four dimensions. This can be true. […] the implementation of postponement is dependent on a firm's market characteristics and the type of the products and therefore may not be applicable in all the situations" (Li et al., 2006, p. 115). A γ of .36 for

postponement on the SCMp (second-order construct) is better (higher value) compared to Li et al. (2006) where the postponement value of γ was only .18 on the SCMp - as a second-order construct.

Finally, organizational performance (Table 6c), the fit indexes for the second order model were x^2/df = 1.921; IFI= .966; NNFI= .952; CFI= .965; RMSEA= .077; SRMR= .0541, indicating a good model-data fit. The coefficients were all significant at p <.001. Chi-square of the first model was 76.842 and of the second model was 76.842. The target coefficient index is 100%, indicating the existence of a second-order competitive advantage construct.

Table 6a: CFA results of second-order constructs of HRM practices

Second-order construct	First-order constructs	Loading	*t*-value[a]	Reliability
HRM practices				.893
	Recruitment and selection	.719	5.389	
	Training and development	.615	7.196	
	Teamwork and participation	.779	9.084	
	Performance appraisal	.886	10.529	
	Compensation/incentives	.814	9.649	
Chi-square (x^2) = 362.128.	*Chi-square* (x^2) = 359.816.	Ratio (359.816/362.128)=99.3%		
The model fit indexes for second-order constructs are: x^2/df = 2.249; IFI= .903; NNFI= .884; CFI= .902; RMSEA= .089; SRMR= .0652.				

Table 6b: CFA results of second-order constructs of SCM practices

Second-order construct	First-order constructs	Loading	*t*-value[a]	Reliability
SCM practices				.748
	Strategic supplier partnership	.613	5.558	
	Customer relationship	.913	10.834	
	Information sharing	.811	7.548	
	Lean manufacturing	.711	5.653	
	Postponement strategy	.360	4.182	
Chi-square (x^2) = 220.994	*Chi-square* (x^2) = 208.637	Ratio (208.637/220.994)=94.4%		
The model fit indexes for second-order constructs are: x^2/df = 1.545; IFI= .958; NNFI= .949; CFI= .957; RMSEA= .059; SRMR= .0586.				

Table 6c: CFA results of second-order constructs of organizational performance

Second-order constructs	First-order constructs	Loading[a]	Reliability
Organizational performance			.821
	Operational performance	.856	
	Financial performance	.749	
Chi-square (x^2) = 76.842.	*Chi-square* (x^2) = 76.842.	Ratio (76.842/76.842)=100%	
The model fit indexes for second-order constructs are: x^2/df = 1.921; IFI= .966; NNFI= .952; CFI= .965; RMSEA= .077; SRMR= .0541.			

[a]All of the t-values are significant at the 0.001 level (***). Source: author

5.3 Hypotheses testing

Making the interactions of testing hypotheses less complicated, firstly, the first and second-order factors were reduced to factor scores, as explained in the previous section. Then, Table 7 provides the means, standard deviations, and correlations among the main variables. It shows significant correlations between the HRM practices variable, SCM practices variable and competitive strategy variables. Indeed, the variance inflation factors (VIFs) of the HRM practice, SCM practice and competitive strategy variables were all less than 10 (ranging between 1.0 and 3.6), indicating that there is no cause for concern regarding multicollinearity (Kutner et al., 2005; Acquaah, 2007; Hoejmose et al., 2013).

A hierarchical multiple regression[4] analysis was used (Acquaah, 2007; Hoejmose et al., 2013; Huo et al., 2014) to examine the direct effects of: human resource management practices on supply chain management practices; human resource management practices, supply chain management practices and competitive strategy on organizational performance; the interaction between human resource management practices and competitive strategy on organizational performance; and the interaction between supply chain management practices and competitive strategy on organizational performance.

Eight models were created with nineteenth sub-models to test the hypotheses of the current study. The first model has two sub-models: (a) Model 1a - which tests the relationship between the control variables and supply chain management practices, and (b) Model 1b – which has both

[4] As the data is multilevel in nature, models in AMOS v. 26 were also estimated, and in PROCESS v3.4 developed by Andrew F. Hayes. The results were similar to those of the SPSS results, but SPSS is presented here, however, to enrich the results with the additional model-data fit, data is taken from AMOS because it allows direct and indirect effects to be estimated. The AMOS results are available from the author, whereas PROCESS v3.4 only the measurement of the mediation effects is available by the author.

the control variables and human resource management practices. Thus, Model 1b adds the human resource management practices variable to Model 1a.

The second model also has two sub-models: (a) Model 2a - which tests the relationship between the control variables and organizational performance, and (b) Model 2b – which has both the control variables and human resource management practices. Also, Model 2b adds the human resource management practices variable to Model 2a.

Third model - Model 3 adds the supply chain management practices to the second model (Model 2b). While, in three sub-models of the fourth model the competitive strategy was added, as follows: (a) Model 4a – adds cost leadership and differentiation strategies to the third model (Model 3), (b) Model 4b – adds the interactions between cost leadership strategy and differentiation strategy (CosLea_x_DiffStr) to the Model 4a, where to create this specific new variable the cost leadership and differentiation strategies were mean-centered to mitigate the multicollinearity problem, whereas (c) Model 4c - adds integrated strategy to the Model 4a. These fourth models enable the hypotheses (**H_{1a}**, **H_{1b}**, **H_2**, and **H_{4a}**) to be tested. Whereas, the mediation effect (the hypothesis **H_3**) was tested using the bootstrapping method.

A fifth model was estimated by adding six interactions (three interactions between human resource management practices and competitive strategy and three interactions between supply chain management practices and competitive strategy) to the fourth model (Model 4c) to test for the contingency hypotheses (**H_{4b}, H_{4b1}, H_{4b2}, H_{4c}, H_{4c1}, H_{4c2}**). The "assumptions of equality of variance, independence of the error term, and the normality of the residual were all met. However, the variance inflation factors (VIFs) showed high multicollinearity among the interaction variables because of the linear combination of variables that contain similar elements" (Acquaah, 2007, p. 1246). Therefore due to the high VIFs value shown in the fifth model, it is not presented in Table 8. Thus, six interaction terms were created to test the six contingency hypotheses (human resources management practices by three competitive strategy variables and supply chain management practices by three competitive strategy variables) as shown in Table 10. Consequently, three new models were created, Model six, Model seven, and Model eight, respectively twelve new sub-models. Model $6a_1$ – which represents the effect of HRMp on organizational performance for organizations that pursue cost leadership strategy, Model $6b_1$ – which represents the effect of HRMp on organizational performance for organizations that do not pursue cost leadership strategy. Model $6a_2$ – which represents the

mediation effect of SCMp on organizational performance for organizations that pursue cost leadership strategy, Model $6b_2$ – which represents the mediation effect of SCMp on organizational performance for organizations that do not pursue cost leadership strategy.

Model $7a_1$ – which represents the effect of HRMp on organizational performance for organizations that pursue the differentiation strategy, Model $7b_1$ – represents the effect of HRMp on organizational performance for organizations that do not pursue the differentiation strategy. Model $7a_2$ – represents the mediation effect of SCMp on organizational performance for organizations that pursue differentiation strategy, Model $7b_2$ – represents the mediation effect of SCMp on organizational performance for organizations that do not pursue the differentiation strategy.

Model $8a_1$ – which represents the effect of HRMp on organizational performance for organizations that pursue the integrated strategy, Model $8b_1$ – represents the effect of HRMp on organizational performance for organizations that do not pursue the integrated strategy. Model $8a_2$ – represents the mediation effect of SCMp on organizational performance for organizations that pursue integrated strategy, Model $8b_2$ – represents the mediation effect of SCMp on organizational performance for organizations that do not pursue the integrated strategy.

Sub-group regression analysis was therefore used to examine the contingency hypotheses in previous studies (Aulakh et al., 2000; Peng & Luo, 2000; Acquaah, 2007; Danso et al., 2019).

Our study is based on the theoretical model depicted in Fig. 1. Using the structural equation model (SEM) in AMOS 26, it was controlled for firm size, firm age and market competition in relation to human resource management practices, supply chain management practices, competitive strategy and organizational performance to account for potential organization heterogeneity effects and enhance the analytical rigor. The fit statistics for the structural model are well within generally accepted limits ($\chi^2_{(157)}$= 204.604, df=93, p< .001, $\chi^2_{(157)}/93$ = 2.2; IFI=0.93; NNFI=0.90; CFI=0.93; RMSEA=0.08; SRMR=0.06) and indicate an acceptable fit to the data (see appendix 2).

Table 7: Descriptive statistics and correlation matrix of the main variables (N=157)

Variables	HRMp	SCMp	CosLea	DiffStr	IntStr	OrgPer	MarCom	OrgAge	OrgSiz
HRM practice (HRMp)	1								
SCM practice (SCMp)	.678**	1							
Cost-leadership strategy	.360**	.427**	1						
Differentiation strategy	.490**	.523**	.681**	1					
Integrated Strategy[a]	-.015	.017	-.059	-.071	1				
Organizational performance	.346**	.440**	.649**	.629**	.046	1			
Market competition	.228**	.206**	.270**	.258**	.003	.231**	1		
Organization age[b]	.025	-.040	-.005	-.083	.115	-.007	.178*	1	
Organization size[c]	.168*	.232**	.083	.195*	.156	.185*	.092	.298**	1
Mean	5.786	8.275	5.487	6.113	.459	4.555	4.575	1.178	1.572
St. Dev.	.941	.974	.957	.959	.500	.506	.904	.306	.362

$*p < 0.05$; $**p < 0.01$. *Source: author*

[a]Dummy variable coded as 1 if *both* low-cost strategy and differentiation strategy are greater than their respective means, and coded 0 otherwise.

[b]Log of number of years since it is established.

[c]Log of number of employees.

5.3.1 Direct effects

Table 8 presents the standardized hierarchical regression used to examine Hypotheses (H_{1a}, H_{1b}, H_2, and H_{4a}). Model 1a, which tests the relationship between the control variables and SCM practices, shows that organization size and market competition are significant and positively related to SCMp ($p < 0.01$), and ($p < 0.05$), respectively, while organizational age is negative and marginally significant ($p < 0.10$). This result indicates that, in the sample, larger organizations apply more supply chain management practices than smaller organizations, and that in conditions of a higher market competition the cooperation between organizational partners is more developed compared to low market competition. In Model 1b, where the HRMp variable is added to Model 1a, the results show that HRMp is positively and significantly related to SCMp ($p < 0.001$). In this vein, Model 1b provides evidence to support **H_{1a}** (**H_{1a}↑**). It should also be mentioned that the inclusion of the HRMp variable significantly improves the explanatory power of Model 1a, as is indicated by the F-test for the change in adjusted R^2 ($R^2 = 38.2\%$, $F > 112.234$, $p < 0.001$), and it is therefore clear that HRMp plays a significant role in the organizational partnership.

Model 2a tests the relationship between the control variables and organizational performance, organization size is significant and positively related to organizational performance ($p < 0.05$), while organizational age is negative and non-significant. This result indicates that larger organizations performed better than smaller organizations in the sample (Acquaah, 2007). In Model 2b, where the HRMp variable is added to Model 2a, it significantly improves the explanatory power of Model 2a as indicated by the F-test for the change in adjusted R^2 ($R^2 = 7.1\%$, $F > 13.674$, $p < 0.001$), and it is therefore clear that HRMp plays a significant role in performance of the manufacture organizations. Additionally, the result shows that HRMp is positively and significantly related to organizational performance ($p < 0.001$), thus supporting **H_{1b}** (**H_{1b}↑**).

In Model 3, the SCMp variable was added to Model 2b, which significantly improves the explanatory power of Model 2b as indicated by the F-test for the change in adjusted R^2 ($R^2 = 5.5\%$, $F > 11.511$, $p < 0.001$), and it is clear that SCMp plays a significant role in the performance of manufacture organizations. Additionally, the result shows that SCMp is

positively and significantly related to organizational performance ($p < 0.001$), thus supporting **H_2** (**H_2↑**).

In Model 4a, in order to measure the direct effect of the competitive strategy variables, cost leadership and differentiation strategies were added, which significantly improves the explanatory power of Model 3 as indicated by the F-test for the change in adjusted R^2 (R^2 = 25.8%, $F > 36.833$, $p < 0.001$). The regression results show that the cost leadership and differentiation strategies are both positive and significantly related to organizational performance ($p < 0.001$ for cost leadership and $p < 0.05$ for differentiation).

Two models were created to test the interactions between cost leadership strategy and differentiation strategy, Model 4b and Model 4c, which are compared to Model 4a. In Model 4b, the interaction between cost leadership strategy and differentiation strategy (CosLea_x_DiffStr) was added, and it improves the explanatory power of Model 4a as indicated by the F-test for the change in adjusted R^2 (R^2 = 5%, $F > 16.274$, $p < 0.001$). However, the result indicates that the interaction between cost leadership strategy and differentiation strategy is significant and negatively related to organizational performance ($p < 0.001$). These results seem to indicate that, while the pursuit of singular competitive strategies enhances organizational performance, the pursuit of a combination strategy worsens organizational performance (Porter, 1985; Acquaah, 2007). Although this result has been used as a test of the effect of integrated strategy on organizational performance (Aulakh et al., 2000; Acquaah, 2007), it does not provide a robust test, "… because the interaction between the low-cost and differentiation strategies could be influenced by firms that do not pursue the low-cost and differentiation strategies simultaneously, since both strategies are measured as continuous variables" (Acquaah, 2007, p. 1248). Whereas, in Model 4c where the "CosLea_x_DiffStr" variable is replaced with the integrated strategy variable, the result shows that the integrated strategy variable has a non-significant positive effect on organizational performance. Additionally, no significant impact is observed on the explanatory power provided by the model compared to Model 4a. Thus, the results of Models 4a, 4b, and 4c provide evidence to support partially the hypothesis **H_{4a}** (see Table 11). It is worth noting that all models tested above have a significant F- value at the level .001 ($p < 0.001$) except Model 2a which has a significant F-value at the level .01 ($p < 0.01$).

Table 8: Results of hierarchical regression analysis on organizational performance (N = 157)[a] ...

Dependent Variable	Supply Chain Management Practices (SCMp)						Organizational Performance (OP)					
Variables	Model 1a			Model 1b			Model 2a			Model 2b		
	β	(t-value)[b]	VIF[c]	β	(t-value)	VIF	β	(t-value)	VIF	β	(t-value)	VIF
Organization size (OS)[d]	.259	(3.240)**	1.10	.153	(2.475)*	1.13	.196	(2.427)*	1.10	.149	(1.889)$^{+}$	1.13
Organization age (OA)[e]	-.155	(-1.912)$^{+}$	1.12	-.114	(-1.844)$^{+}$	1.13	-.107	(-1.311)	1.12	-.089	(-1.129)	1.13
Market competition (MC)	.210	(2.703)**	1.03	.066	(1.095)	1.08	.232	(2.956)**	1.03	.168	(2.172)*	1.08
HRM practices (HRMp)				.640	(10.59)***	1.08				.285	(3.698)***	1.08
R^2	.110			.488			.091			.166		
Adjusted R^2	.092			.474			.073			.144		
Change in adjusted R^2				.382						.071		
F-test for change in adjusted R^2				112.234***						13.674***		
p-value for R^2 change	.000			.000			.002			.000		
Model F	6.279***			36.191***			5.085**			7.548***		

[a] The coefficients are standardized regression coefficients. *Source: author*

[b] Critical values of the t distribution for a= 0.10, α=0.05, α=0.01, and α=0.001 (two-tailed test) are $^{+}$=1.65, *=1.96, **=2.58, and ***=3.30, respectively.

[c] Variance inflation factor.

[d] Log of number of employees.

[e] Log of number of years since the organization is established.

Note that for the change in adjusted R^2 and F-test change in adjusted R^2, Model 1b is compared with Model 1a. Model 2b is compared with Model 2a.

...continuation of Table 8

Dependent Variable	Organizational Performance (OP)											
Variables	Model 3			Model 4a			Model 4b			Model 4c		
	β	(*t*-value)	VIF	β	(*t*-value)	VIF	β	(*t*-value)	VIF	β	(*t*-value)	VIF
Organization size (OS)	.097	(1.248)	1.17	.079	(1.204)	1.22	.070	(1.119)	1.22	.068	(1.026)	1.25
Organization age (OA)	-.050	(-.653)	1.15	-.009	(-.146)	1.20	.003	(.048)	1.20	-.014	(-.220)	1.21
Market competition (MC)	.145	(1.937)$^{+}$	1.09	.034	(.542)	1.14	.055	(.910)	1.15	.034	(.542)	1.14
HRM practices (HRMp)	.068	(.689)	1.88	-.028	(-.334)	1.99	.060	(.725)	2.13	-.026	(-.308)	1.99
SCM practices (SCMp)	.340	(3.393)***	1.95	.141	(1.649)	2.10	.167	(2.040)*	2.12	.136	(1.594)	2.11
Cost-leadership strategy (CL)				.404	(4.166)***	2.70	.299	(3.118)**	2.91	.404	(4.172)***	2.70
Differentiation strategy (DI)				.229	(2.161)*	3.21	.086	(.803)	3.60	.237	(2.243)*	3.22
CosLea_x_DiffStr[f]							-.304	(-4.034)***	1.79			
Integrated strategy (IS)[g]										.075	(1.245)	1.04
R^2	.225			.481			.533			.487		
Adjusted R^2	.199			.457			.507			.459		
Change in adjusted R^2	.055			.258			.050			.002		
F-test for change in adjusted R^2	11.511***			36.833***			16.274***			1.551		
p-value for R^2 change	.001			.000			.000			.215		
Model F	8.758***			19.749***			21.086***			17.538***		

[f] The interaction was created by multiplying the mean-centered variables of cost leadership strategy and differentiation strategy.
[g] Dummy variable (coded 1 if both low-cost strategy and differentiation strategy are greater than their respective means; 0 otherwise).
Note that for the change in adjusted R^2 and *F*-test change in adjusted R^2, Model 3 is compared with Model 2b. Model 4a is compared with Model 3. Models 4b and 4c are compared with Model 4a.

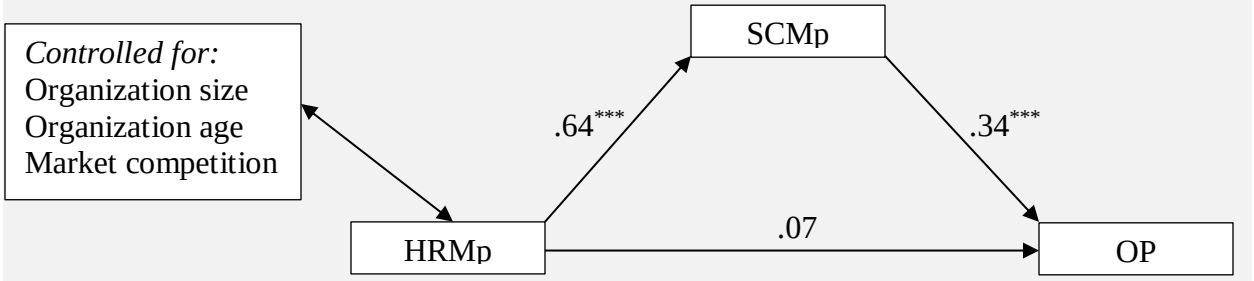
5.3.2 Mediation effects

Mediation analysis is used to offer a more enhanced explanation of serial linkages by illustrating how, or why, an independent factor impacts a dependent variable (Hair et al., 2019). Thus, an intermediate variable, which is called the mediator, helps to explain how, or why, an independent variable influences an outcome. In the context of a treatment study, it is often of great interest to identify and study the mechanisms by which an intervention achieves its effect (Gunzler et al., 2013). By investigating the mediation processes that clarify how the treatment achieves the study outcome, not only can it further our understanding of the cause of the impotence and the mechanisms of treatment, but it may also be able to identify alternative, more efficient, intervention strategies (Gunzler et al., 2013).

To test the mediation effect of SCMp, first the direct relationships between HRMp and SCMp were tested as presented in Model 1b, and the direct relationship between SCMp and organizational performance, which is presented in Model 3. The results showed that both relationships have a significant positive impact on their dependent variables (see Table 8).

To further analyze the mediating effect, the IBM SPSS AMOS 26 and PROCESS v3.4 (Andrew F. Hayes, 2018) tests were conducted in order to examine the direct, indirect and total effect of the HRMp on organizational performance. Then, the bootstrapping method suggested by Preacher & Hayes (2008) was used. The indirect effect was analyzed by setting the number of sampling iterations (N) to 5000 (Hayes, 2018; Gölgecia & Kuivalainen, 2020). When testing the mediating effect of SCMp, the direct effect of HRMp on organizational performance was found to be non-significant with the mediation. Whereas, without the mediation the direct effect between HRMp and organizational performance was significant at ($p < .001$). Moreover, the bootstrapping method showed that the indirect effect of HRMp on organizational performance through SCMp was significant at ($p < .01$). Thus, the standardized indirect (mediated) effect of HRMp on organizational performance is significantly different from zero at the 0.01 level ($p=.003$ two-tailed). This result points to a full mediation and provides compelling support for $\mathbf{H_3}$, ($\mathbf{H_3}\uparrow$), as shown in Table 9.

Table 9: Results of mediation of SCMp on HRMp and organizational performance (N = 157)[a]



Model fit: $x^2(157)/df = 1.226$; IFI= .999; NNFI= .979; CFI= .999; RMSEA= .038; SRMR= .0141.

Relationship	Total Effects (p-value)	Direct Effects (p-value)	Indirect Effects (p-value)
HRMp →OP	.285 (.001)***	.068 (.492)	.217 (.003)**

[a] Completely standardized indirect effect(s) of X on Y. Critical values of the t distribution for, α=0.01, and α=0.001 (two-tailed test) are **=2.58, and ***=3.30, respectively.
Note: Model content is as follows - dependent variable (OP), independent variable (HRMp), mediator (SCMp). HRMp was covariate with organization size, organization age and market competition.

5.3.3 Moderation effects

Three models were created in two different ways to measure the contingency effects of the competitive strategy on the relationship between HRMp and organizational performance and on the influence of the mediator SCMp on organizational performance. Firstly, the relationship between HRMp and organizational performance is moderated, models ($6a_1$-$8b_1$). Secondly, the mediation SCMp and organizational performance is moderated, models ($6a_2$-$8b_2$).

Table 10 presents the results of the subgroup analyses performed to test the contingency hypotheses (4b – $4c_2$). Models $6a_1$ and $6b_1$ examine the impact of the HRMp variable on organizational performance between organizations that pursue cost leadership strategy and organizations that do not pursue cost leadership strategy. Both the equations are significant ($F = 2.682$, $p < .05$ for cost leadership organizations, and $F = 5.645$, $p < .001$ for non-cost leadership organizations), with the set of independent variables respectively explaining 11.4 and 26.1 percent of the variance in organizational performance for the two groups. Hypothesis H_{4b} states that the positive influence of HRM practices on organizational performance will be stronger for organizations pursuing the cost leadership strategy than organizations that do not pursue the cost leadership strategy. The results indicate that the beta coefficients of HRMp for cost leadership

and non-cost leadership organizations were both positive and significantly related to organizational performance ($\beta = .244$, $p < 0.05$ for cost leadership organizations, and $\beta = .351$, $p < 0.01$ for non-cost leadership organizations). The results of a z-test comparing the two beta coefficients (Cohen et al., 2003) indicates that they are not significantly different ($z = .440$, $p > 0.10$). Thus, hypothesis **H_{4b}** was not supported (**$H_{4b}\downarrow$**).

Hypothesis H_{4b1} states that the positive influence of HRM practices on organizational performance will be stronger for organizations pursuing the differentiation strategy than organizations that do not pursue the differentiation strategy. This hypothesis was also not supported (see Models $7a_1$ and $7b_1$). The coefficient for the differentiation organizations is significant ($\beta = .267$, $p < .05$), as well for the non-differentiation organizations is positive and significant ($\beta = .339$, $p < .01$), but the z-value ($z= .379$, $p > .10$) shows non-significant differences in the sizes of the beta coefficients. Thus, hypothesis **H_{4b1}** was not supported (**$H_{4b1}\downarrow$**).

Finally, related to the contingency role of competitive strategy on the relationship between HRM practices and organizational performance, it is expected that the positive influence of HRM practices on organizational performance will be stronger for organizations pursuing the integrated strategy than organizations that do not pursue the integrated strategy. In Models $8a_1$ and $8b_1$, the beta coefficient for organizations that pursue integrated strategy is positive and significant ($\beta = .262$, $p < .05$), whereas it is also positive and significant for organizations that do not pursue integrated strategy ($\beta = .321$, $p > .001$). A non-significant z-test (.520, $p > .10$) cannot provide differences in the coefficients. Thus hypothesis **H_{4b2}** was not supported (**$H_{4b2}\downarrow$**).

Models $6a_2$ and $6b_2$ examines the impact of the mediator SCM practices on organizational performance between cost leadership organizations and non-cost leadership organizations. Although the beta coefficients for SCM practices for both cost leadership and non-cost leadership organizations were positive and significantly related to organizational performance ($\beta = .394$, $p < .01$ for cost leadership organizations; $\beta = .309$, $p < 0.05$ for non-cost leadership organizations), a z-test indicates that the coefficients are not significantly different ($z = -1.253$, $p > 0.10$). Thus, hypothesis **H_{4c}**, which states that the positive influence of SCM practices on organizational performance will be stronger for organizations pursuing the cost leadership strategy than organizations that do not pursue the cost leadership strategy, was not supported (**$H_{4c}\downarrow$**).

While in Models $7a_2$ and $7b_2$ the impact of SCMp on organizational performance is measured in order to test hypothesis **H_{4c1}**, which states that the positive influence of SCM practices on organizational performance will be stronger for organizations pursuing the differentiation strategy than organizations that do not pursue the differentiation strategy. The results show a non-significant positive effect for differentiation organizations (β = .210, p > 0.10), and a significant positive effect for non-differentiation organizations (β = .423, p < 0.01). A z-test indicates that the two coefficients are not significantly different (z=0.495, p > .10). Thus, hypothesis **H_{4c1}** was not supported (**$H_{4c1}\downarrow$**).

Similarly, the results of Models $8a_2$ and $8b_2$ also indicate that hypothesis **H_{4c2}** which states that the positive influence of SCM practices on organizational performance will be stronger for organizations pursuing the integrated strategy than organizations that do not pursue the integrated strategy, was not supported (**$H_{4c2}\downarrow$**). While, SCMp has a non-significant positive influence on organizational performance for integrated organizations (β = .010, p > .10), and a non-significant positive influence on organizational performance for non-integrated organizations (β = .191, p > 0.10), providing a non-significant z-value (.859, p > .10).

In general, all the models in Table 10 are significant (F-values range from 2.196, p < .10 for Model $8a_1$ to 10.019, p < 0.001 for Model $8b_2$), with the set of independent variables explaining between 10.3 percent (Model $7a_1$) and 51.7 percent (Model $8a_2$) of the variance in organizational performance. The models are consistent with the findings of Peng and Luo (2000) and Acquaah (2007) in their studies.

Table 10: Results of analysis examining the moderating effects of competitive strategy on relationship between HRM practices and organizational performance, and SCM practices and organizational performance (N = 157)[a] …

Variables	Cost-leadership strategy				z-test[b]	Differentiation strategy				z-test
	Model $6a_1$		Model $6b_1$			Model $7a_1$		Model $7b_1$		
	Cost-leadership (n = 88)		Non-cost-leadership (n = 69)			Differentiation (n = 91)		Non-differentiation (n = 66)		
	β	(t-value)	β	(t-value)		β	(t-value)	β	(t-value)	
Organization size	.116	(1.105)	.208	(1.646)	0.366	.034	(.320)	.332	(2.926)**	1.965*
Organization age	-.044	(-.403)	-.172	(-1.411)	-0.716	.054	(.491)	-.322	(-2.902)**	-2.540*
Market competition	.166	(1.542)	.150	(1.296)	-0.247	.121	(1.138)	.184	(1.672)+	0.370
HRM practices (HRMp)	.244	(2.338)*	.351	(2.925)**	0.440	.267	(2.555)*	.339	(2.970)**	0.379
Mean VIF	1.057		1.267			1.096		1.183		
R^2	.114		.261			.103		.351		
Adjusted R^2	.072		.215			.061		.309		
Model F	2.682*		5.645***			2.469+		8.264***		
	Model $6a_2$		Model $6b_2$		z-test	Model $7a_2$		Model $7b_2$		z-test
Organization size	.049	(.466)	.166	(1.337)	0.614	.012	(.115)	.247	(2.247)*	1.581
Organization age	-.016	(-.148)	-.121	(-1.002)	-0.626	.075	(.681)	-.248	(-2.327)*	-2.233*
Market competition	.119	(1.130)	.155	(1.378)	0.118	.095	(.884)	.190	(1.849)+	0.618
HRM practices (HRMp)	-.021	(-.149)	.146	(.965)	0.799	.128	(.902)	.060	(.430)	-0.375
SCM practices (SCMp)	.394	(2.704)**	.309	(2.110)*	-1.253	.210	(1.438)	.423	(3.091)**	0.495
Mean VIF	1.489		1.594			1.486		1.551		
R^2	.187		.310			.124		.441		
Adjusted R^2	.137		.255			.073		.394		
Model F	3.770**		5.650***			2.413*		9.449***		

[a] The coefficients are standardized regression coefficients. *Source: author*

[b] The formula for the *z*-test, which was conducted to verify the difference between the betas of the subgroups pursing a competitive strategy and those not pursing that strategy, is adopted by (Cohen et al., 2003; Acquaah, 2007). The t-test is a two-tailed test. Note: +p < 0.10; ∗p < 0.05; ∗∗p < 0.01; ∗∗∗p < 0.001.

...continuation of Table 10

Variables	Integrated strategy				z-test
	Model $8a_1$		Model $8b_1$		
	Integrated (n = 72)		Non-integrated (n = 85)		
	β	(t-value)	β	(t-value)	
Organization size	.111	(.945)	.200	(1.832)$^{+}$	0.549
Organization age	.039	(.317)	-.215	(-2.010)*	-1.588
Market competition	.119	(.970)	.171	(1.653)	0.299
HRM practices (HRMp)	.262	(2.244)*	.321	(3.021)**	0.520
Mean VIF	1.086		1.193		
R^2	.116		.239		
Adjusted R^2	.063		.201		
Model F	2.196^{+}		6.267***		
	Model $8a_2$		Model $8b_2$		z-test
Organization size	.050	(.538)	.119	(1.205)	0.516
Organization age	.070	(.754)	-.101	(-1.034)	-1.323
Market competition	.029	(.299)	.048	(.522)	0.139
Cost-leadership strategy	.339	(1.860)	.424	(3.583)***	0.543
Differentiation strategy	.366	(1.909)	.144	(1.029)	-0.913
HRM practices (HRMp)	.044	(.343)	-.040	(-.324)	-0.473
SCM practices (SCMp)	.010	(.073)	.191	(1.592)	0.859
Mean VIF	2.480		1.908		
R^2	.517		.477		
Adjusted R^2	.464		.429		
Model F	9.782***		10.019***		

Table 11: Hypotheses test results

Hypotheses - (Path)	Results
Direct effects	
H_{1a} : HRM practices → SCM practices	Supported
H_{1b} : HRM practices → Organizational performance	Supported
H_2 : SCM practices → Organizational performance	Supported
H_{4a}: Cost leadership strategy → Organizational performance	Supported
H_{4a}: Differentiation strategy → Organizational performance	Supported
H_{4a}: Cost lead. strategy _x_ Diff. strategy → Organizational performance	Supported
H_{4a}: Integrated strategy → Organizational performance	Rejected
Mediating effects	
H_3 : HRM practices x SCM practices → Organizational performance	Supported
Moderating effects	
H_{4b} : HRM practices_x_cost leadership strategy → Organizational performance	Rejected
H_{4b1} : HRM practices_x_differentiation strategy → Organizational performance	Rejected
H_{4b2} : HRM practices_x_integrated strategy → Organizational performance	Rejected
H_{4c} : SCM practices_x_cost leadership strategy → Organizational performance	Rejected
H_{4c1}: SCM practices_x_differentiation strategy → Organizational performance	Rejected
H_{4c2} : SCM practices_x_integrated strategy → Organizational performance	Rejected
Control paths	*Coefficient (t-value)*
Organization size → SCM practices	.259 (3.240)**
Organization age → SCM practices	-.155 (-1.912)$^{+}$
Market competition → SCM practices	.210 (2.703)**
Organization size → Organizational performance	.196 (2.427)*
Organization age → Organizational performance	-.107 (-1.311)
Market competition → Organizational performance	.232 (2.956)**

Source: author

CHAPTER VI – DISCUSSION, RESEARCH IMPLICATIONS AND LIMITATIONS

This research study examined the relationship between three strategic instruments (HRM practices, SCM practices and competitive strategy) and their effects on organizational performance. Thus, by inspecting the influence of human resource management practices on organizational performance, which relationship is mediated by supply chain management practices and moderated by competitive strategy, this study replicates and broadens the previous research in different areas, such as: human resource management, supply chain management, competitive strategy, and organizational performance. Additionally, it examined the extent to which the value of human resource management practices, as an independent variable, and supply chain management practices, as a mediator on their relationship with organizational performance, are contingent on the organizational competitive strategic orientation.

The results indicated that the implementation of supply chain management practices is related to organization size, where larger organizations apply the practices of supply chain management more than smaller organizations. This finding supports the previous SCM literature where Li et al. (2006) and Huo et al. (2014) have stressed that small companies (based on the number of employees) are seldom involved in sophisticated supply chain management activities. Hence, larger organizations are more likely to influence the implementation of supply chain practices compared to smaller organizations, as they possess the capabilities and resources necessary to execute complex processes across partners (Wu & Chang, 2012).

Related to the organizational implementation of SCM practices in terms of market competition, the results exhibited that, in conditions of a high market competition, the cooperation between the focal organization and its trading partners is more developed than in the low market competition. The cooperation between trading partners may be forced by international organizations that operate in the same market with domestic organizations and which constantly put pressure on domestic organizations in terms of product quality, delivery speed, or in price. Thus, to cope with this kind of external pressure domestic organizations are obligated to build a close relationship with their trading partners, which make them more competitive and allow them to survive or grow in the competitive market. Moreover, regarding the control variables, the results indicated that larger organizations achieve better organizational performance than smaller

organizations. This supports the findings of Acquaah (2007), who specified that larger organizations perform better than smaller organizations in an emerging economy.

Further, it is hypothesized in this study that an organization's HRM practices have a positive influence on its SCM practices. Supporting this hypothesis, the results indicated that employing various human resource management practices, such as recruitment and selection, training and development, teamwork and participation, performance appraisal, and compensation/incentives, may provide the organization with a good implementation of SCM practices on strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy. Even though this study treats HRM and SCM widely using more comprehensive practices, the findings are in the same direction with several previous findings which have treated the relationship between any element of HRM practices and SCM practices. In this respect, it supports Hohenstein et al. (2014), who stressed that SCM practices are dependent on HRM, and Ellinger and Ellinger (2014), who pointed out that talented human resource in SCM offers a unique source of sustainable competitive advantage by improving supply chain performance. Hence, these results claim for a close coordination between managers of HRM and SCM departments in order to understand and develop the main skills and training necessities of their employees to keep the organization competitive (Liboni et al., 2019), and to improve the whole organizational performance. This invokes organizations also to use proper criteria to hiring employees and organize the needed training and development for incumbents to make organization flourish. In addition, it supports the statement of Collins (2001), where to build a great organization should "[…] understand that the ultimate throttle on growth for any great company is not markets, or technology, or competition, or products. It is one thing above all others: the ability to get and keep enough of the right people" (p. 54). Thus, SCM success and organization success is directly related and depended on the HRM practices that an organization implements.

Whereas, the direct relationship between competitive strategies and organizational performance hypothesized as: an organization's competitive strategy (as cost leadership, differentiation and integrated strategy) has a positive influence on its organizational performance, was partially supported. Where, results showed that organizations which pursue a cost leadership strategy or a differentiation strategy may provide a positive organizational performance. These results support the previous findings by certain authors (e.g., Porter, 1885; Acquaah, 2007; Banker et al., 2014;

Danso et al., 2019; Islami et al., 2020a; Islami et al., 2020b). Whereas, organizations which pursue an integrated strategy could not provide a better organizational performance, but may provide a negative organizational performance. This result supports the findings exhibited by Acquaah (2007), but are contrary to Dombrowski et al. (2018), who recommend that manufacturing organizations must pursue cost leadership strategy and differentiation strategy simultaneously in order to remain competitive in the market.

Based on the results that have measured the direct effects of competitive strategies on organizational performance, it can be summarized that organizations which pursue a cost leadership strategy through the implementation of economization elements, such as realizing a cost advantage of raw material procurement, reducing cost of production, achieving an efficient way of operation, implementing strict control of cost and pricing below competitors, may provide a better organizational performance. Similarly, when organizations implement the elements of differentiation strategy, such as providing a product with unique features, improving their products continuously, offering a high product quality into the market, highlighting effective co-ordination among different functional areas that ensure customer satisfaction, or using advertising and promoting products/services, may provide a higher organizational performance compared to those organizations that do not implement these elements. Whereas, the effort to implement the elements of both of these strategies simultaneously may provide a negative effect on organizational performance, as the organizational requirements to implement these strategies are essentially contradictory (Barney & Hesterly, 2018). Thus, the organizations that attempt to implement both strategies simultaneously fail, as they will be "stuck in the middle" (Porter, 1985).

6.1 Research implications

The results of this research study lead organizations to succeed and enrich the strategic literature with useful results obtained from three strategic aspects HRM, SCM and competitive strategy, which will be used by academics and practitioners for further examination. Improving the opinion on strategic management by integrating the role of strategic instruments on organizational success, points out the theoretical significance of the research. Thus, creating a complete strategic model incorporating these three key strategic instruments serves as a runway

for future researchers to start their own research. Whereas, the managerial implications of this study lay the groundwork for creating a strategy model based on the process of integrating strategic instruments with the aim of developing the organization through the appropriate use of HRM practices, SCM practices and competitive strategy, which may provide a synergistic effect.

6.1.1 The role of HRM practices in influencing organizational performance

Rather than focusing on particular HRM practices that are used in isolation, the present research study joins the group of human resource management studies that look more broadly at bundles of HRM practices that are implemented in combination (Liao, 2005), and which fits with other organizational practices providing a competitive advantage and better performance for the organization that appropriately implements them.

Using a behavioral perspective, it is hypothesized that an organization's HRM practices have a positive influence on its organizational performance. Results which support this hypothesis indicate that human resource management practices developed from organizations have a direct effect on organizational performance, but are not contingent on strategic orientation. In keeping with the findings of prior studies (e.g., Huselid, 1995; Delery & Doty, 1996; Lee et al., 2010; Otoo, 2019), it demonstrates that human resource management practices positively enhance organizational performance. A possible explanation may be that the implementation of various HRM practices, such as: recruitment and selection, training and development, teamwork and participation, performance appraisal, and compensation/incentives, may provide the organization with a better operational performance on product quality, responsiveness to customers, delivery speed, and delivery dependability, likewise, it may increase several indicators of financial performance, such as: return on investment, growth in sales, growth in return on sales, growth in market share, and growth in profit. Thus, to remain competitive organizations must continuously improve their usage of HRM practices since competitors will imitate the good practices.

In this respect, this study makes several contributions to our understanding regarding the relationship between HRM practices as a strategic instrument and organizational performance. A fine-grained analysis revealed that each of the five practices of human resource management used in this analysis (first-order constructs) loads the second-order construct "HRM practices" more than sixty percent. This provides sufficient evidence that an adequate implementation of

the recruitment and selection criteria in hiring employees may be considered the strategic element in achieving an organization's convenient work climate, which enables it to increase overall organizational performance.

Using an appropriate method of employee training and development through organizing training programs that meet the needs of employees, realizing training programs with the aim to increase employees' promotability, using realistic and useful training which is based on the competitive strategy of the organization, and employing adequate formal training programs to teach new hires the skills that they need to perform their jobs, may increase employee motivation to work and consequently may improve operational and financial performance. It supports Niazi (2011), who concluded that a good training and development process creates learning organizations and ensures employees that, through their value addition, they can perform their jobs effectively, gain competitive advantage and seek self-growth, which will conversely enhance overall organizational performance.

Further, it is evidenced that organizations which apply correctly teamwork and participation practice through persistent efforts to get all team members' opinions during problem-solving sessions, developing small teams with the aim to solve problems, and organizing problem-solving teams to improve manufacturing processes, may provide a better organizational performance. Partially, the same findings were found by Otoo (2019), who identified a direct positive impact of employee participation on employee competencies, which may increase employees' desire to work, and an indirect positive influence of employee participation on organizational performance through employee competencies.

On this relationship, results also indicated that applying a performance appraisal system by organizations may improve their performance. Organizational circumstances when the appraisal system is growing and development oriented, employees have faith in the performance appraisal system, it has an influence on individual and team behavior, the appraisal data is used for making decisions such as job rotation, training, and compensation, and all employees have a clear understanding of the objectives of the appraisal system, may serve as an efficient method to develop, motivate, and evaluation employees (Islami et al., 2018), and it may increase operational performance.

Finally, by analyzing HRM practices - organizational performance relationship, the results point out that a good application of compensation/incentives practices may cause a better employee

performance and, consequently, a better organizational performance. Similar effects were found in two separate previous studies. Where, Ellinger et al. (2002) found that the employees' compensation and payment usually reflected the work performance and are considered an important factor in encouraging individual performance. Whereas, Ghazanfar et al. (2011) stressed that incentives and bonuses attract devoted employees and encourage individuals to apply more effort, in order to provide a better performance. Thus, using job performance as an important factor in determining the incentive compensation of employees, compensating employees based on their performance, using a fair incentive system for rewarding people who accomplish an organizational objective, and using the incentive system as a tool to encourage people to reach organizational goals, may increase motivation and individual performance. Consequently, as a result of employee productivity improvement, it may advance overall organizational performance.

To sum up, the results that were gained from this analysis are consistent with those of previous studies, e.g., Jayaram et al. (1999), who found that positive linkages exist between individual HRM practices and operational performance, Ahmad and Schroeder (2003), who analyzed the relationship between seven HRM practices and operational performance and concluded that all seven HRM practices influence positively operational performance, Lee et al. (2010), who highlighted a positive relationship between six HRM practices and firm performance, and Huselid et al. (1997), who stressed that there is a positive link between strategic HRM effectiveness and firm performance.

It should be noted that HRM practices may be influenced by contextual factors, such as: organizational size, organizational age, competitive market, an organization's position in the industry, human resource availability and human resource education. For instance, the level of training and development practice, measured by organization requirement and expectations, may be higher for organizations that operate in industries with high competitive market and when the required skills cannot be provided easily. Larger organizations may have higher levels of HRM practices since they usually have more complex duties and relationships requiring the need for more effective management of human resources in terms of delegating or motivating processes. The level of performance appraisal and compensation/incentives practices may be influenced by the size, age, and the human resource education of the organization.

6.1.2 The mediating effect of SCM practices

SCM practices are also not treated as isolated, but contain a group of five practices that are treated in combination. Two measurements were conducted to measure the mediating effect of SCM practices on the relationship between HRM practices and organizational performance. On the one hand, the direct effect of SCM practices on organizational performance was measured where, it is hypothesized that an organization's SCM practices have a positive influence on its organizational performance. The results indicated that supply chain management practices developed from organizations have a positive impact on organizational performance, supporting the findings of Li et al. (2006), which demonstrated a positive relationship between five SCM practices and organizational performance. Additionally, the results are parallel to those of Quang et al. (2016), Truong et al. (2017), Aswini et al. (2019) and Duong et al. (2019), who have argued a positive relationship between divergent perspectives of SCM practices and organizational performance.

By a fine-grained analysis of the results, it may be indicated that an adequate application of various SCM practices, such as creating a strategic supplier partnership, building a credible customer relationship, using appropriate information sharing system, trying to realize lean manufacturing and involving postponement strategy on the production process, may provide an improvement for the organization on operational performance indicators, such as on product quality, responsiveness to customers, delivery speed, delivery dependability, and on financial performance indicators, such as growth in return on investment, growth in sales, growth in return on sales, growth in market share, and growth in profit. Thus, SCM practices in Kosovan manufacturing organizations indeed act as links between the organization and the beyond organizational border community by diffusing information with treading partners and providing access to organizational resources. Hence, it is argued that an organization's access to resources and other benefits from creating a good strategic cooperation with suppliers, such as involving suppliers in the design of new products, solving problems jointly with suppliers, applying continuous improvement programs including key suppliers, and involving key suppliers in business and strategy planning, may entail significant obligations for trading partners and provide favors for the focal organization. Therefore, creating a strategic supplier relationship

may provide a good organizational performance in both areas: (a) operational performance, and (b) financial performance.

In this respect, the results showed that organizations may improve their organizational performance in operational and financial aspects, by also using divergent SCM practices correctly. For example, creating a good partnership with customers through measuring and evaluating customer satisfaction, determining customer future expectations, facilitating customers' ability to seek assistance from the organization, then, sharing credible information between trading partners, or delaying final product fitting activities until customer orders have actually been received by the organization, may provide an improvement on product quality, responsiveness to customers and delivery speed, which may bring in a high profit for the organization.

On the other hand, the indirect effect of HRM practices on organizational performance through SCM practices was measured, where it is hypothesized that an organization's SCM practices mediate the link between HRM practices and organizational performance. The results provide evidence that support this hypothesis. Thus, HRM practices require the mediating means of SCM practices to channel their potential impact on organizational performance. Since human resource interactions are involved in the supply chain, their interaction may advance operational and financial performance.

Hence, HRM practices are an important strategic instrument that improves both variables, SCM practices and organizational performance, whereas SCM practices mediate the effect of HRM practices on organizational performance. A possible explanation for this relationship may be that, if the organization does not possess adequate SCM practices, it may not reap the benefits of HRM practices to a fuller extent. Thus, an appropriate implement of HRM practices (implementing effectively the process of recruitment and selection, training and development, teamwork and participation, performance appraisal and compensation/incentives practices) may provide adequate employees (with needed knowledge) which implement properly SCM practices (creating strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy), supporting the organization to achieve a competitive advantage in the market and providing a better organizational performance.

It should be noted that by adding SCM practices as a mediator on the relationship between HRM practices and organizational performance, it makes the direct effect of HRM practices on

organizational performance non-significant (zero-effect). This means that, in this trilogy, only the interaction between HRM and SCM practices may increase organizational performance, perhaps because, to give their full effect on organizational performance, HRM practices may require significant supplier and customer involvement, appropriate information sharing and lean manufacturing, which can bring more progress to product quality, responsiveness to customers and delivery speed – stimulating the improvement of organizational performance.

It is important to note the explanation provided by Li et al. (2006) related to the influence of contextual factors, such as organizational age, organizational size, competitive market, supply chain length, an organizations' place in the supply chain and the sort of supply chain on SCM practices. In this respect, they have highlighted five important issues, such as: (a) the level of customer relationship practice, measured by customer satisfaction and expectations, may be higher for a company located at the end of a supply chain (close to the consumer), (b) larger organizations may have higher levels of SCM practices since they typically have more complex supply chain networks requiring a more effective management of the supply chain, (c) the level of information quality may be adversely influenced by the length of a supply chain, (d) information suffers from delay and distortion as it moves along the supply chain, the shorter the supply chain, the less chance of distortion, (e) a higher level of postponement maybe associated with make-to-order versus make-to-stock production systems.

Through the analysis of the relationship of HRM practices with organizational performance mediated by SCM practices (Hypothesis **H_3**), it was demonstrated that SCM practices completely mediate the impact of HRM practices on organizational performance. The findings of this research study points to the importance of the integrative effects of HRM practices and SCM practices to organizational performance.

6.1.3 The moderating effect of competitive strategy

The contingency effect of competitive strategies on the role of practices has been identified in the existing literature (Prajogo & Sohal, 2006; Acquaah, 2007; Huo et al., 2014; Danso et al., 2019). This study has examined the contingency role of competitive strategies in two strategic areas. Firstly, it was measured whether the relationship between HRM practices and organizational performance is contingent on competitive strategies. It is hypothesized that the

positive influence of HRM practices on organizational performance will be stronger for organizations pursuing the cost leadership strategy, differentiation strategy or integrated strategy than organizations that do not pursue any of them. The results do not support these hypotheses, although HRM practices exert their effect on organizational performance directly, but the magnitude of the direct effect is not dependent on competitive strategy – it indicates that does not exist a significant moderation effect in this relationship. However, the findings show that HRM practices are more effective under certain competitive strategies. Also, that competitive strategies have different moderating effects on the relationship between HRM practices and organizational performance.

More interestingly, the results showed that the benefits of implementing HRM practices were higher for organizations that do not pursue a cost leadership strategy than organizations which do, even though this difference was not statistically significant. However, HRM practices for both organizations, cost leadership and non-cost leadership orientation, have a positive influence on organizational performance, achieving a positive effect on financial performance indicators, such as on growth in return on investment, growth in sales, growth in return on sales, growth in market share and growth in profit.

Similarly, non-differentiation organizations provide better organizational performance than differentiation organizations by using correctly HRM practices, even though the difference was not statistically significant. A fine-grained analysis revealed that organizations which implement differentiation strategy may provide a lower organizational performance compared to non-differentiation organizations, since differentiation organizations require more investment in product quality, responsiveness to customers, customer service level, delivery speed and delivery dependability, which can decrease financial performance and, consequently, the whole organizational performance.

It is worth emphasizing that the effect of HRM practices on organizational performance is slightly better for organizations pursuing a differentiation strategy than those pursuing a cost leadership strategy. One possible explanation for this relationship may be that the implementation of HRM practices requires more resources and investments. Thus, cost leadership organizations cannot leverage their effectiveness to improve financial performance (Huo et al., 2014). In contrast, differentiation organizations are focused on product quality, deliver quality and process quality, which are costly but make the organization different from

competitors. This quality improvement boosts the customer's willingness to pay a premium price, which may provide a better organizational performance (for a more exploration see Islami et al., 2020a; Islami et al., 2020b). While, the results showed that the impact of HRM practices on organizational performance is higher for organizations that do not pursue an integrated strategy than those that do. Finally, the results that measured the relationship between HRM practices and organizational performance indicated that the standardized beta value for non-cost leadership, non-differentiation and non-integrated organizations was larger than cost leadership, differentiation and integrated organizations.

Secondly, it was measured whether the relationship between SCM practices and organizational performance is contingent on competitive strategies. In the current thesis it is hypothesized that the positive influence of SCM practices on organizational performance will be stronger for organizations pursuing the cost leadership strategy, differentiation strategy or integrated strategy than organizations that do not pursue any of them. The findings also do not support the hypotheses. So, since the indirect effect of HRM practices does not differ systematically as a function of competitive strategy, it cannot be said that the mediation of HRM practices effect on organizational performance by SCM practices is moderated by competitive strategy – it does not show the moderated mediation effect.

The results of this measurement indicated that the benefits of implementing SCM practices as a mediator were higher for organizations that pursue a cost leadership strategy than organizations which do not pursue cost leadership strategy, but this difference was not statistically significant. It may be true because based on transaction cost economics theory, the transaction cost of internal exchange is lower than the exchange with external partners (Huo et al., 2014). Also, a significant effect of SCM practices as a mediator on organizational performance was found in organizations which do not pursue a differentiation strategy. Whereas, the results for the effect of SCM practices on organizational performance for differentiation organizations, integrated organization, and non-integrated organizations were non-significant, possibly because the organizational performance is measured by process-focused and determined by the effectiveness of operational practices and return investment focused determining by financial effectiveness.

However, contrary to Huo et al. (2014), this study could not find that competitive strategies moderate the effect of SCM practices on organizational performance for organizations that operate in Kosovo. Moreover, it also could not support the hypotheses which suppose that

competitive strategies have a contingency effect on the relationship between HRM practices as the focal independent variable and SCM practices as a mediator and organizational performance as a dependent variable (compare the betas in Table 10). Kosovan organizations appear to apply and develop human resource management practices and create networking partnerships with other organizations to mitigate the effects of international competitors on the market and to obtain product quality, responsiveness to customers, delivery speed and delivery dependability in order to absorb market opportunities.

Overall, the contingency hypotheses expose some interesting trends. Although the findings do not support the contingency hypotheses, the results certainly found interesting things. Based on the results, implementing a cost leadership strategy and differentiation strategy is beneficial to Kosovan organizations. Perhaps, the contingency hypotheses were not supported because cost leadership organizations' efforts to manufacture standardized products or to offer services place a premium on efficiency of operations, which is not in harmony with HRM practices and SCM practices, as implementing these two practices require raising organizational expenditures, which may affect organizational performance. In contrast, differentiation organizations need to convince customers that their products and services carry hard-to-verify qualities that demand price premiums (Acquaah, 2007), and thus the greater benefit can be provided. This is not the case here since low income means Kosovan consumers' do not have any special preference for very high quality and branded merchandise, especially if they are expected to pay a premium price for them. This may cause a decrement in the financial performance of the differentiation organization. The effect of HRM practices and SCM practices on organizational performance does not change much if organizations implement the competitive strategies of low cost, differentiation or integrated strategy. To sum up, this study revealed that the positive influences of HRM practices are not conditioned by the competitive strategies that organizations pursue. Also, that the effect of competitive strategies on the mediator SCM practices does not provide a significant difference in influencing organizational performance.

6.2 Theoretical implications

In response to calls for further study into the HRM/SCM interface by Fisher et al. (2010), Hohenstein et al. (2014) and Huo et al. (2015), and analyzing the contingency role of competitive strategies on the relationship between HRM practices and organizational performance mediated by SCM practices, the current study advances the field in four ways.

First, it validates the strategic integration between second-order constructs of HRM practices, SCM practices and organizational performance, and the first-order construct of competitive strategies, which have generally been poorly defined and there has been a high degree of variability in people's understanding of them. It has been shown that HRM practices form a second-order construct composed of the five first-order constructs, such as recruitment and selection, training and development, teamwork and participation, performance appraisal and compensation/incentives - the five foremost components of HRM practice. Whereas, SCM practices form a second-order construct composed also of five first-order constructs, such as strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy - the five major components of SCM practice. It provides enough evidence proving that an appropriate implementation of HRM practices has a positive impact on realizing successfully SCM practices.

Second, Hohenstein et al. (2014) claimed that the best practices of human resource management and supply chain management need yet to be developed, where a few studies have investigated the effect of a bundle of HRM practices on another bundle of SCM practices. This study fills this gap by providing empirical evidence of the link between a set of HRM practices that aim to improve the performance of SCM practices. It has also found that HRM practices that are designed for entire organizations could facilitate the implementing of SCM practices. The HRM practices treated in this study provide information about the attributes that all employees should have within an organization which can be leveraged to improve SCM practices. In this way, this study found that HRM practices play an important role in enhancing supply chain management practices, which deserve more attention in future studies. From this perspective, the strategic fit between HRM practices and SCM practices is explored, expanding knowledge about the HRM/SCM boundary. Therefore, as competition is now moving from "among organizations" to "between supply chains", organizations are increasingly adopting SCM practices in the hope of

reducing supply chain costs (Li et al., 2006) and achieving better organizational performance. In this vein, HRM practice plays a crucial role on realizing SCM activities (Ellinger & Ellinger, 2014). The findings support the viewpoint that HRM and SCM practices may have a noticeable effect on organizational performance.

Third, in response to the call made by Tan et al. (2002) and Hohenstein et al. (2014) for further research to explore the impact of supply chain management practices on organizational performance by including other areas of the organization and their perspective, this study investigates the antecedents of HRM practices from the perspective of SCM practices under competitive strategies on organizational performance. It found that an improvement on the different dimensions of SCM practices require an early development of HRM practices in order to provide employees who support realizing SCM practices. Human resources (employees) are the most effective resources that may improve both dimensions (upstream and downstream) of the SCM practices. Employee skills are crucial to SCM effectiveness through creating a strategic partnership with suppliers (upstream dimension) and a close relationship with customers (downstream dimension). Also, employees contribute to a high level information flow through a supply chain and the effectiveness of the internal supply chain processes, such as lean manufacturing and postponement strategy. In this way, the results open the "black box" of the link between HRM and SCM practices. Similar to Huo et al. (2015), this study suggests that HRM may serve as an effective enabler for SCM, and that different HRM practices have different effects on the dimensions of SCM practices. It adds to the HRM and SCM practices antecedents already identified by the literature and offers fresh perspectives from which to consider HRM and SCM issues.

Fourth, this study tested the relationship between HRM practices, SCM practices and organizational performance under three different competitive strategies (cost-leadership strategy, differentiation strategy and integrated strategy). The results reveal different patterns across different relationships. It provides empirical evidence that there are different results in the effects of HRM practices on SCM practices, HRM practices on organizational performance, HRM practices on organizational performance mediated by SCM practices, and these relationships under three competitive strategies. These patterns enrich the existing literature and suggest new directions for future research.

In addition, this study addresses several concerns linked to the previous research on organizational strategic orientation. Most HRM studies were focused on the networking relationships between practices or HRM strategies with organizational performance. Thus, most previous studies have neglected important strategic components such as networking relationships of HRM practices with other constituencies, e.g., HRM practices and SCM practices to organizational performance, or HRM practices mediated by SCM practices and moderated by competitive strategies to organizational performance. Thus, the broadened view of the strategic instruments operationalized here broadens the work evidenced in the literature, and it provides the lens for a more comprehensive and fine-grained analysis of the effect of HRM and SCM practices under different competitive strategies on organizational performance in emerging economies.

6.3 Managerial implications

While some organizations have understood the value of implementing HRM and SCM practices, they are often unsure of exactly what to implement, due to a lack of understanding of what constitutes a comprehensive set of HRM and SCM practices. By proposing, developing and validating a multi-dimensional operational measure of the construct of HRM and SCM practices, and by demonstrating their efficacy in improving organizational performance, this study provides human resource managers, supply chain managers and strategic managers with a useful tool for evaluating the comprehensiveness of their current HRM and SCM practices. Therefore, the study's findings also have significant managerial implications and insights that may allow organizations to better manage and coordinate human resources, supply chain and competitive strategies, providing recommendations for strategic managers in adopting HRM practices and SCM practices under different competitive strategies. Therefore, it helps practitioners in four ways.

First, HRM practices and SCM practices can directly enhance organizational performance. Thus, a proper implementation of both HRM and SCM practices are helpful to organizational performance. Although the positive effects of HRM practices on organizational performance became insignificant when SCM practices were added in the measurement model, it does not mean that HRM practices should be discarded. SCM practices can significantly enhance

organizational performance, suggesting that when designing and implementing SCM practices, manufacturers should have a strategic plan beforehand for increasing the quality and knowledge of employees through HRM practices.

Scholars agree that it is critical for supply chain practitioners to separate truth from hype (Stank et al., 2011), understand the importance of SCM (Huo et al., 2015) and the elements required for its success (Ellinger & Ellinger, 2014; Huo et al., 2015). Results of this study contribute to the knowledge of both human resource and supply chain managers by showing that SCM can be enhanced by leveraging HRM that is designed for the entire organization (Huo et al., 2015). This means that SCM issues can be approached from an HRM perspective and that HR managers should accept more responsibilities for the success of operational practices such as SCM (Huo et al., 2015). A relational perspective to HRM and SCM should be implemented both within and across organizations (Huo et al., 2015). This study finds that both HRM practices and SCM practices are designed based on relationships and identify an important strategic fit. This suggests that human resource and supply chain managers should develop strategies and actions together, as doing so offers a promising way to introduce a unique competitive advantage to the organizations (González-Loureiro et al., 2014).

Additionally, the improvement of employee skills cannot be overemphasized in complex supply chains. Barriers and new technologies for SCM appear constantly in a changing environment. Extensive training programs should be arranged for employees to obtain new skills and remove barriers in order to facilitate the implementation of SCM practices. More importantly, a continuous-learning atmosphere should be established within an organization during this process, as it would nurture the more flexible and quickly responsive employees who are necessary for complex SCM practices. Although motivation is also necessary, goal-based incentives cannot improve implementing of SCM practices. The main reason is that the implementation of SCM practices has not yet reached its highest stage, at which organizations align their own objectives with supply chain objectives (Stank et al., 2011).

At the current stage, organizations are competing for “pies”. This also reflects the fact that there are significant gaps in SCM practices implementation in both theory and practice. Although it is important for supply chain practitioners to advance their understanding of SCM practices and implement them toward its highest stage, other incentive strategies should be enacted until they reach that stage. More importantly, for any incentive strategy to be effective, human resource

and supply chain managers must work together and find the appropriate supply chain metrics to evaluate employee performance. Employee participation reflects that organizations place great emphasis on the value and development of employees. This is the essence of the relational approach, and it has been proved to be a better way of extolling employee intelligence and enthusiasm.

Second, the implementation of HRM and SCM practices may not bring common benefits for manufacturers. Our findings suggest a contingent view of the HRM and SCM practices to the organizational performance relationship. Manufacturing organizations with a cost leadership strategy should be focused more on implementing SCM practices as it provides higher organizational performance. Whereas, differentiation organizations should be focused on implementing HRM practices extensively in order to achieve better organizational performance. It is worth noting that, HRM practices can be executed only when manufacturers achieve better organizational performance regardless of which type of competitive strategy is selected, since a suitable implementation of HRM practices requires additional financial investment by the organization.

Third, findings highlighted the characteristics of Kosovan manufacturers in terms of implementing various HRM and SCM practices under different competitive strategies. Kosovan manufacturers are incapable of managing different types of HRM and SCM practices under competitive strategies. Therefore, the findings of this study showed no important difference between cost leadership organizations and non-cost leadership organizations, between differentiation organizations and non-differentiation organizations, and between integrated and non-integrated organizations, on implementing HRM and SCM practices.

Fourth, the emergence of a global marketplace has presented great challenges for organizations to successfully manage globe-spanning supply chains. From this perspective, this study, which examines competitive strategic differences, not only provides the rules for organizations in specific countries to manage their supply chains by leveraging specific HRM practices, but also offers suggestions for multinational organizations to manage their global supply chains by leveraging HRM practices in local countries. Our examination of the competitive strategic differences has significant managerial implications. Organizations that pursue a cost leadership strategy or a differentiation strategy can refer to these findings and to identify the effective human resource practices for improving SCM. More importantly, the results of this study shed

light on the organizations that operate in Kosovo and beyond, and help strategic managers to identify more effective HRM practices on promoting SCM practices in their organizations.

These findings indicate that Kosovan manufacturers' operational routines are internally and externally oriented. Therefore, two things are important to increase the supply chain management practices efficiency on Kosovan manufacturers: (a) internal environment of the organization must be improved, in terms of HRM practices (employing right employees - following appropriate criteria to hire and develop employees), and (b) Kosovan manufacturers need to change their internally-oriented view to an externally-oriented view, especially for the supplier and customer relationship.

The results of this study are also valuable to Balkan organizations (buyers) who are customers of Kosovan manufacturers. Those organizations should pay special attention to the fact that Kosovan manufacturers are process integration orientated. If the foreign organizations' objective is to minimize their cost or to increase their innovative capability, the current collaboration with Kosovan manufacturers is valuable. However, if foreign organizations aim to increase their innovative capability, they need to help Kosovan manufacturers build capabilities in coordinating with external supply chain partners.

6.4 Limitation of this study and future research

Although, this research study has made several contributions, it also has some limitations. Consequently, this chapter includes a summary of the main conclusions of this study, its limitations and the research that is needed to advance this issue further.

This study proposes and assesses a comprehensive integration model of HRM practices, SCM practices, competitive strategies and organizational performance. Its primary contribution, in our view, is in the comprehensive nature of the model as opposed to parsing and assessing pieces of the model. Although this research study contributes to both academic and practice circles, it has several limitations. The limitations of this research study have opened up avenues for future research studies.

First, subjective measures of HRM practices, SCM practices, competitive strategies and organizational performance were used. In terms of measuring HRM and SCM practices, the

perceptual measures prohibited the use of sophisticated quantitative methods of determining network formation (Acquaah, 2007). The choice of perceptual measures of organizational performance was driven also by the difficulty of obtaining objective performance measures in Kosovo. The use of perceptual measures in this study parallels that of existing literature in larger emerging economies where scholars have experienced similar difficulties (e.g., Park & Luo, 2001; Tan & Peng, 2003; Acquaah, 2007; Danso et al., 2019). Instead of choosing perceptual measures of organizational performance and other variables, future studies can examine this relationship using objective measures at least for organizational performance. An objective assessment of organizational performance can be achieved by using secondary data, such as organization records or financial statements.

Second, information on HRM practices, SCM practices and competitive strategies were solicited from March 2017 to March 2020, and organizational performance from March 2019 to March 2020 to establish causality. Since, this study used a cross-sectional design to measure organizational performance, it cannot reflect the lag time or long-term effects of HRM and SCM practices on organizational performance. However, it is possible that the organizations experiencing better performance may be attracted by the relationship formations from many internal factors e.g., innovations, quality, organization ownership and organization governance (see Leiblein, 2003; Sun et al., 2007; Frick & Simmons, 2008; Yunis et al., 2017) and external factors e.g., environment uncertainty (Bastian & Muchlish, 2012). Thus, organizational performance is a global concept that incorporates numerous internal and external factors, so not only HRM practices and SCM practices have an impact on it. Therefore, the explained variance of organizational performance may be low. Additionally, both endogenous as well as HRM practices, SCM practices and competitive strategies factors may be related to common cause (endogeneity problem) so the correlation between disturbances may be significant. Therefore, future studies could include any reasonable additional internal or external factor in the model and could carry out longitudinal studies to examine the relationship between variables tested in this study.

Third, this study is conducted using Kosovan samples and thus the findings are more meaningful in the Kosovan context. Whereas, leveraging of organizational practices for competitive strategies may vary across countries (Hofstede, 2011). Thus, by focusing on one industry, different organization sizes and ages, this study has developed a broad picture of the relationship

among HRM practices, SCM practices, competitive strategies and organizational performance. Hence, this study does not clarify how HRM practices and SCM practices are used with competitive strategies to improve organizational performance in different contexts and countries, as this strategic integration may not be the same for all industries, organization sizes and ages. Future studies can examine this integration by conducting it using different contextual factors (e.g., different industries), in different contexts, and conducting cross-cultural studies. Especially, the difference between different countries and the reasons for these differences may be investigated. A good point of compering, as González-Loureiro et al. (2014) recommended, might be Western cultures and those of emerging and transitional economies.

Fourth, although this study uses five constructs to represent HRM practices, they do not cover all of the aspects of HRM, which is a mature discipline with many concepts. Similarly, with SCM practices where it is presented by five constructs, as the concept of SCM practices is complex and involves a network of organizations in the effort of producing and delivering a final product, its entire domain cannot be covered in a single study. Future research can expand the domain of HRM practices by exploring additional dimensions, such as: health and safety, human resource planning, employment security, clear job description, results-oriented appraisal and career planning, which have been overlooked in this study. Moreover, additional constructs related to SCM practices that may be considered are: JIT/lean capability, geographical proximity, logistics integration, cross-functional coordination, which have been overlooked in this study. Future studies can also test the relationships/dependencies among the five dimensions of HRM and SCM practices.

Fifth, this study uses a sample containing organizations with at least 10 employees, whereas on measuring SCM practices Li et al. (2005) and Huo et al. (2014) highlighted that organizations with less than 100 employees are seldom involved in sophisticated supply chain management activities. Also, Kim (2009) used a data set which had at least 250 employees to ensure sophisticated SCM, as small-sized companies hardly engage in such activities. Nevertheless, this research study has found that organizations that have more than 10 employees implement SCM practices as an alternative and flexible decision to cope with global competition. Future studies can investigate this integration by considering only organizations with more than 100 employees, and contend with the results of this study in order to demonstrate the existence of any possible inconsistencies.

Sixth, this study has only measured the upright relationship between HRM practices, SCM practices, competitive strategies and organizational performance. Future studies using an integrative holistic approach can examine the reverse causality to identify if organizational performance has an impact on pursuing competitive strategies and implementing HRM or SCM practices since organizational performance may influence the way of obtaining HRM or SCM practices and blurry the cause-effect link revealed in this study.

Seventh, the data used in this study covered the organizational position prior to the "COVID 19" pandemic crisis. Thus, it is possible that the changes in the proposed relationships are small. Since the data for this study was collected in July-September of 2020, about six months after the outbreak of the pandemic in Kosovo, the questionnaires contained a section with six questions/items regarding the effects of "COVID 19" on the sample manufacturing organization. These questions were formulated as statements, such as: as a result of the pandemic (COVID 19) sales in our organization are reduced, the market for our products has decreased, profit in our organization is reduced, incomes of our organization have decreased, the amount of production by our organization is reduced, and the price of our product has decreased. Thus, for each of these statements the respondents were asked to indicate the extent to which "COVID 19" has affected their organization (using: 1 – "not at all"; 2 – "little"; 3 – "slightly"; 4 – "neutral"; 5 – "to a moderate extent"; 6 – "to a large extent"; 7 – "to an extreme extent"). The respondent organizations have assessed this effect as follows: sales in our organization are reduced (mean =4.50; st. dev. =1.689), the market for our products has decreased (mean =4.16; st. dev. =1.799), profit in our organization is reduced (mean =4.55; st. dev. =1.591), incomes of our organization have decreased (mean =4.50; st. dev. =1. 771), the amount of production by our organization is reduced (mean =4.15; st. dev. =1.762), and the price of our product has decreased (mean =3.82; st. dev. =1.817). The results indicated that the effect of the pandemic is approximately "neutral", but it does not mean that it has not worsened over time. However, future studies should collect fresh longitudinal data to improve and broaden this research stream, and to compare the results before and after the pandemic crisis.

CHAPTER VII - CONCLUSION

A prosperous strategic model integration helps academicians, researchers and practitioners in understanding a wider strategic perspective that leads to organization flourish. Therefore, by taking an interdisciplinary approach with a relational perspective, the proposed model of this thesis takes an integrative and fresh approach toward illuminating the role of supply chain management practices and competitive strategy in realizing the potential influence of human resource management practices on organizational performance. The findings and interpretations have been summarized, and the main research issues and opportunities have been highlighted. Furthermore, the results of this thesis will be significant for researchers and strategic managers in Kosovo, the region and beyond in the current era of globalization.

In this thesis, measures are developed for a broader conceptualization of the key strategic instruments, which include HRM practices mediated by SCM practices, to provide evidence of the direct and contingent value on organizational performance. Thus, it systematically examines the effect of HRM practices on SCM practices, the direct effect of HRM and SCM practices on organizational performance, the mediated effect of SCM practices on the relationship between HRM practices and organizational performance and the moderation effect of HRM and SCM practices by competitive strategies on organizational performance. Based on examining the prior literature regarding HRM practices, SCM practices, competitive strategies and organizational performance; discovering and analyzing existing literature for constructing an integrative conceptual model that fits with the research typology used in this dissertation; searching for elements (practices or dimensions) that each testable variable should contain; preparing questionnaires based on the existing literature (finding practices/dimensions that each instrument must contain, and items that each practice should contain); pre-pilot study; pilot study, large-scale data analysis and empirical explaining of the relationships of the proposed model in function to achieve the goals and objectives of this thesis, determine the conclusions of this thesis, which are presented as follow:

1. In the last three decades, scholars have been focused on examining the effects of HRM on competitive advantage and organizational outcomes. They have been preoccupied with defining the boundary of HRM practices. In this thesis, based on the suitability with other variables that are treated, HRM is presented through five practices: recruitment and selection,

training and development, teamwork and participation, performance appraisal and compensation/incentives.

2. The development trajectory of supply chain practices is directly related to research in SCM. Researchers have treated SCM practices over the years mostly in only one dimension, i.e. the upstream or downstream side of the supply chain. This thesis represents the most important and applicable SCM practices, through five practices: strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy, which fit with other variables explored in this thesis. These five practices cover four dimensions of the SC: upstream and downstream sides of the supply chain, information flow through the supply chain and internal supply chain processes.
3. In the current strategic literature, competitive strategy is widely considered an important means to facilitating an organization's efforts to achieve dominance in the competitive market battle. Exists various competitive strategy typologies, which have been the focus of strategic authors and have been developed continuously through the years. In essence, all typologies of competitive strategies roughly have a common origin and have the same goal, i.e. to achieve a competitive advantage for the organization. The current thesis measures competitive strategy in three dimensions, by involving cost leadership strategy, differentiation strategy and integrated strategy.
4. The effects of the strategic instruments i.e. HRM practices, SCM practices and competitive strategy dimensions on organizational performance, has been measured using financial criteria, non-financial criteria, or both. In this thesis, organizational performance was measured using two dimensions: operational performance (non-financial criteria) and financial performance (financial criteria).
5. The integrative model tested in this thesis provides empirical justification for a framework that identifies and develops five key dimensions of both HRM practices and SCM practices. Thus, it provides empirical evidence and supports that an integrative strategy developed from the HRM practices relationships mediated by SCM practices and moderated by competitive strategy are significant predictors of organizational performance after controlling for organization age, size and market competition.
6. A comprehensive, valid and reliable instrument for assessing HRM and SCM practices was developed. Rigorous statistical tests including convergent validity, discriminant validity,

reliability, the validation of first and second-order constructs, hierarcical regresion analysis, structural equation model and subgroup analyis were used to examine four research questions: (1) do organizations with high levels of HRM practices have high levels of SCM practices; (2) do organizations with high levels of HRM and SCM practices have high levels of organizational performance; (3) do organizations with high level of HRM practices mediated by SCM practices have high levels of organizational performance; (4) do organizations with high levels of HRM practices and SCM practices moderated by competitive strategies have a high level of organizational performance?

7. The relationship between the control variables and SCM practices, shows that organization size and market competition are significant and positively related to SCM pactices ($p < 0.01$), and ($p < 0.05$), respectively, while organizational age is negative and marginally significant ($p < 0.10$). Which indicates that the implementation of SCM practices is related to organization size and market competition, in the sample, larger organizations apply more SCM practices than smaller organizations and in conditions of a higher market competition the cooperation between organizational partners is more developed compared to low market competition.
8. HRM practice is positively and significantly related to SCM practices ($p < 0.001$). HRM practice plays a significant role in the organizational partnership. Employing various HRM practices, such as recruitment and selection, training and development, teamwork and participation, performance appraisal, and compensation/incentives, may provide the organization with a good implementation of SCM practices on strategic supplier partnership, customer relationship, information sharing, lean manufacturing and postponement strategy.
9. Organization size is significant and positively related to organizational performance ($p < 0.05$), while organizational age is negative and non-significant. Larger organizations performed better than smaller organizations in the sample.
10. HRM practice plays a significant role in performance of the manufacture organizations. The implementation of various HRM practices, such as: recruitment and selection, training and development, teamwork and participation, performance appraisal and compensation/ incentives, may provide the organization with a better operational performance on product quality, responsiveness to customers, delivery speed, and delivery dependability, likewise, it

may increase several indicators of financial performance, such as: return on investment, growth in sales, growth in return on sales, growth in market share, and growth in profit.

11. SCM practice also plays a significant role in the performance of manufacture organizations. An adequate application of various SCM practices, such as creating a strategic supplier partnership, building a credible customer relationship, using appropriate information sharing system, trying to realize lean manufacturing and involving postponement strategy on the production process, may provide an improvement for the organization on operational performance indicators, such as on product quality, responsiveness to customers, delivery speed, delivery dependability, and on financial performance indicators.
12. Organizations which pursue a cost leadership strategy through the implementation of economization elements, such as realizing a cost advantage of raw material procurement, reducing cost of production, achieving an efficient way of operation, implementing strict control of cost and pricing below competitors, may provide a better organizational performance.
13. When organizations implement the elements of differentiation strategy, such as providing a product with unique features, improving their products continuously, offering a high product quality into the market, highlighting effective co-ordination among different functional areas that ensure customer satisfaction, or using advertising and promoting products/services, may provide a higher organizational performance compared to those organizations that do not implement these elements.
14. The effort to implement the elements of both of these strategies simultaneously may provide a negative effect on organizational performance, as the organizational requirements to implement these strategies are essentially contradictory. Thus, the organizations that attempt to implement both strategies simultaneously fail, as they will be “stuck in the middle”.
15. HRM practices are an important strategic instrument that improves both variables, SCM practices and organizational performance, whereas SCM practices mediate the effect of HRM practices on organizational performance. If the organization does not possess adequate SCM practices, it may not reap the benefits of HRM practices to a fuller extent. Through the analysis of the relationship of HRM practices with organizational performance mediated by SCM practices, it was demonstrated that SCM practices completely mediate the impact of HRM practices on organizational performance.

16. In subgroup analysis the standardized beta coefficients of HRM practices for cost leadership and non-cost leadership organizations were both positive and significantly related to organizational performance ($\beta = .244$, $p < 0.05$ for cost leadership organizations, and $\beta = .351$, $p < 0.01$ for non-cost leadership organizations). The results of a z-test comparing the two beta coefficients indicates that they are not significantly different ($z = .440$, $p > 0.10$). HRM practices for the cost leadership and non-cost leadership organizations, have a positive influence on organizational performance, achieving a positive effect on financial performance indicators, such as on growth in return on investment, growth in sales, growth in return on sales, growth in market share and growth in profit.
17. In subgroup analysis the standardized coefficient for the differentiation organizations is significant ($\beta = .267$, $p < .05$), as well for the non-differentiation organizations is positive and significant ($\beta = .339$, $p < .01$), but the z-value ($z= .379$, $p > .10$) shows non-significant differences in the sizes of the beta coefficients.
18. In subgroup analysis the beta coefficient for organizations that pursue integrated strategy is positive and significant ($\beta = .262$, $p < .05$), whereas it is also positive and significant for organizations that do not pursue integrated strategy ($\beta = .321$, $p > .001$). A non-significant z-test (.520, $p > .10$) cannot provide differences in the coefficients.
19. In subgroup analysis the standardized beta coefficients for SCM practices for both cost leadership and non-cost leadership organizations were positive and significantly related to organizational performance ($\beta = .394$, $p < .01$ for cost leadership organizations; $\beta = .309$, $p < 0.05$ for non-cost leadership organizations), a z-test indicates that the coefficients are not significantly different ($z = -1.253$, $p > 0.10$). The results of this measurement indicated that the benefits of implementing SCM practices as a mediator were higher for organizations that pursue a cost leadership strategy than organizations which do not pursue cost leadership strategy, but this difference was not statistically significant.
20. In subgroup analysis the results showed a non-significant positive effect for differentiation organizations ($\beta = .210$, $p > 0.10$), and a significant positive effect for non-differentiation organizations ($\beta = .423$, $p < 0.01$). A z-test indicates that the two coefficients are not significantly different ($z= .495$, $p > .10$). Similarly, SCM practices has a non-significant positive influence on organizational performance for integrated organizations ($\beta = .010$, $p >$

.10), and a non-significant positive influence for non-integrated organizations (β = .191, p > 0.10), providing a non-significant z-value (.859, p > .10).

21. By testing the proposed model, this thesis finds that HRM practices have positive and direct effects on SCM practices, that HRM practices and SCM practices have positive and direct effects on organizational performance, that HRM practices mediated by SCM practices have positive effects on organizational performance, that pursuing a separate competitive strategy (cost leadership or differentiation strategy) has a positive effect on organizational performance, whereas pursuing an integrated strategy has a negative effect or no effect on organizational performance, and that organizations that implement HRM and SCM practices under a competitive strategy (cost leadership strategy, differentiation strategy, or integrated strategy) have no statistically significant difference on organizational performance compared to organizations that do not pursue any of these competitive strategies.
22. In broad-spectrum, although HRM practices are positively related to SCM practices and organizational performance, they have no significant influence on organizational performance under implementing competitive strategies. More interestingly, it can be concluded that the relationship between HRM practices and organizational performance is slightly stronger when organizations do not emphasize competitive strategies. This cannot be said for the relationship between SCM practices and organizational performance under the contingency approach. These results advance the existing knowledge about the HRM practices, SCM practices and competitive strategies interface and provide significant managerial guidelines for strategic managers and specifically for human resource and supply chain managers.
23. Organization managers in Kosovo depend more on HRM practices and cooperation with treading partners through SCM practices to achieve product quality, responsiveness to customers, and delivery speed, which are needed for the strategic orientation of the organization's activities in the customer's viewpoint and for providing better organizational performance. One of the practical implications is that Kosovan manufacturers may develop their relationship between HRM and SCM practices capabilities without much relying on their competitive strategies.
24. In summary, this thesis can provide a possible explanation for the inconsistent findings about the effects of HRM and SCM practices under competitive strategies on organizational

performance. The general hypothesis raised in this thesis is answered, wherein: an organization's integrative strategic model incorporating the influence of HRM practices as a focal independent variable and SCM practices as a mediator, under contingency effect of the competitive strategies strengthens organizational performance in the manufacturing industry. It can be concluded that this statement was partially supported. Thus, it provides an important validation of the claim that the fit between HRM practices and SCM practices will determine performance.

25. The results of this thesis showed that the main goal that assumes to create an integrative strategy approach, is increasing the benefits of organizational performance by coordinating and fitting closely the main internal and external elements of an organization, which enables it to better utilize opportunities which may lead to business success. This thesis represents a significant contribution to the scientific and academic value, to the relationship between human resource management practices, supply chain management practices and competitive strategy as strategic instruments and their impact on organizational performance in the manufacturing industry in Kosovo, in the region and beyond.

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APPENDIX

Appendix 1

Note: Items marked by an asterisk (*) were removed in the final instruments.

QUESTIONNAIRE

Participant Consent Form[5]

Dear madam/sir,

You are being asked to contribute to a research study examining the relationship between an integrative approach of strategic instruments and organizational performance. After reading in more detail about this study, you will be asked to consent to contribute to this study or withdraw your contribution.

Investigator:

Xhavit Islami PhD candidate
"Ss. Cyril and Methodius University" in Skopje, North Macedonia
Faculty of Economy - Organizational Sciences and Management (Management)
E-mail: xhavitislami@gmail.com

Purpose of the Study:

This study measures the impact of human resource management practices, supply chain management practices and competitive strategy on organizational performance. You are one of (approximately) 500 organizations throughout Kosovo to participate in this study.

Description of the Study:

Study contribution is voluntary. If you decide to contribute, you will be asked to answer an online survey using validated strategic instruments. To complete the questionnaire will take approximately 15-20 minutes.

Risk or discomforts:

This study is anonymous and online. So, there should be no risk of your participation in this survey unless you save all your answers on your computer and your company/organization track your saved files. If at any point, you feel uncomfortable, you may discontinue your participation at any time, either temporarily or permanently, and this will not affect your relationship with the researcher or with "Ss. Cyril and Methodius University" in Skopje. The results of this study will be used as generalized.

[5] The participant consent form was adapted by Ahmet Shala, which was used in his PhD dissertation.

Benefits of the study:
This is the first study of treating several strategic instruments simultaneously in the Republic of Kosovo. I believe this will be a great contribution to further research in this field in Kosovo and beyond. The main benefit of this research will be the scientific findings on strategic management. Contributors themselves will derive a direct benefit from engaging in this study.

Anonymity:
Only the investigator will have access to the online responses. No one will be able to determine, in any written report or article, whether you have participated in this study.

Incentives to participate:
The provision of anonymity to study contributors, as well as the scientific contribution of this study, is hoped to serve as an incentive for you to contribute in this study.

Vulnerary nature of participation:
Participation in this study is voluntary. Your choice whether or not to participate will not influence future relations with the researcher nor with "Ss. Cyril and Methodius University" in Skopje. You are free to withdraw your consent and halt your participation at any time without any penalty or loss of benefits to which you are entitled.

Note: once you have submitted your answers, you can no longer withdraw them, due to the anonymous nature of the study.

Questions about the study:
If you have any questions about the study or your rights as a participant, please contact the investigator Xhavit Islami at xhavitislami@gmail.com

Thank you in advance for assisting with this important research.

If you agree to participate in this survey research click "continue"

- CONTINUE

I. GENERAL INFORMATION

*The purpose of this section is to obtain general information on your organization and its activity. For each question below, please **circle the option** which is the most suitable for you and your organization:*

1.1 Which industry does your organization operate in?

a) Food
b) Textile
c) Construction
d) Electronic
e) Chemical
f) Other (please specify_____).

1.2 What is the type of ownership of your organization?

a) State owned
b) Private owned
c) Other (please specify_____).

1.3 How many employees does your organization have? (please specify the number _____).

1.4 When was your organization established? (please specify the year_____).

1.5 What is your role in the organization?

a) Owner
b) CEO - chief executive officer
c) Human Resource Manager
d) Manufacturing Manager
e) Supply Chain Manager
f) Marketing Manager
g) Financial Manager
h) Other (please specify _____).

1.6 How long have you been working in the current organization?

a) Less than 5 years
b) 5-10 years
c) 11-15 years
d) 16-20 years
e) Over 20 years.

1.7 Which international standard has your organization adopted for the quality management system?

a) ISO 9001: 2000
b) ISO 9001: 2015
c) ISO/TS 16949: 2002
d) Others.

1.8 Which group belongs to your organization's annual turnover in 2019?

a) ≤ €1 million
b) €1 million–10 million
c) > €10 million.

II. Human Resource Management Practices

Below are items that organizations may use in the management of their employees. For each following item, indicate the degree of the each specific human resource management practice employed by your organization in last three years (2017 March - 2020 March), to manage its employees. (Use: 1 – "not at all"; 2 – "little"; 3 – "slightly"; 4 – "neutral"; 5 – "to a moderate extent"; 6 – "to a large extent"; 7 – "to an extreme extent")

2. To what extent did your organization use the following practices in last three years 2017 March – 2020 March, *(evaluate from 1 – "not at all" to 7 – "to an extreme extent").*								
2.1 Recruitment and selection		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(RecSel_1)	Attitude/desire to work in a team as a criterion in employee selection.							
(RecSel_2)	Problem-solving aptitude as a criterion in employee selection.							
(RecSel_3)	Work values and behavioral attitudes as a criterion in employee selection.							
(RecSel_4)	Selecting employees who can provide ideas to improve the manufacturing process.							
(RecSel_5)*	Selecting employees who are able to work well in small groups.							

2.2 Training and development		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(TraDev_1)*	Providing extensive training programs for individuals in their jobs.							
(TraDev_2)	Activities of the training program provided meet the needs of the employees.							
(TraDev_3)	Formal training programs are offered to employees in order to increase their promotability.							
(TraDev_4)	Identifying realistic and useful training needs based on the competitive strategy of the organization.							
(TraDev_5)	Providing formal training programs to teach new hires the skills they need to perform their jobs.							
2.3 Teamwork and participation		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(TeaPar_1)	During problem solving sessions, an effort to get all team members' opinions and ideas is given before making a decision.							
(TeaPar_2)	Forming teams to solve problems and in the past 3 years many problems have been solved through small group sessions.							
(TeaPar_3)	Problem solving teams have helped improve manufacturing processes.							
(TeaPar_4)*	Employee teams are encouraged to try to solve their problems as much as possible.							
(TeaPar_5)*	Allowing employees to make decisions related to cost and quality matters.							
2.4 Performance appraisal		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(PerApp_1)	Appraisal system is growth and development oriented.							
(PerApp_2)	Employees have faith in the performance appraisal system.							
(PerApp_3)	Appraisal system has influence on individual and team behavior.							
(PerApp_4)	The appraisal data is used for making decisions like job rotation, training, and compensation.							
(PerApp_5)	The objectives of the appraisal system are clear to all employees.							
2.5 Compensation/incentives		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(ComInc_1)*	Compensation is decided on the basis of competence or ability of the employee.							
(ComInc_2)	Job performance is an important factor in determining the incentive compensation of employees.							
(ComInc_3)	The compensation for all employees is directly linked to his/her performance.							
(ComInc_4)	Incentive system is fair at rewarding people who accomplish an organization objective.							
(ComInc_5)	Incentive system encourages people to reach organization goals.							

III. Supply Chain Management Practices

Below are items that organizations may use in the management of their supply chain. For each following item, indicate the degree of the each specific supply chain management practice employed by your organization in last three years (2017 March – 2020 March), to manage its supply chain partners. (Use: 1 – "not at all"; 2 – "little"; 3 – "slightly"; 4 – "neutral"; 5 – "to a moderate extent"; 6 – "to a large extent"; 7 – "to an extreme extent")

3. To what extent did your company use the following practices in last three years 2017 March – 2020 March, *(evaluate from 1 – "not at all" to 7 – "to an extreme extent").*								
3.1 Strategic supplier partnership		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(SupPar_1)*	Considering quality as a criterion in selecting our suppliers.							
(SupPar_2)	Involving suppliers in the design of new products.							
(SupPar_3)	Solving problems jointly with our suppliers.							
(SupPar_4)	Using continuous improvement programs that include our key suppliers.							
(SupPar_5)	Involving our key suppliers in business and strategy planning.							
3.2 Customer relationship		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(CusRel_1)*	Interacting with customers to set reliability, responsiveness, and other standards for us.							
(CusRel_2)	Measuring and evaluating customer satisfaction.							
(CusRel_3)	Determining future customer expectations.							
(CusRel_4)	Facilitating customers' ability to seek assistance from us							
(CusRel_5)	Evaluating the importance of our relationship with our customers.							
3.3 Information sharing		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(InfShar_1)	Informing trading partners in advance of changing needs.							
(InfShar_2)	We and our trading partners keep each other informed about events or changes that may affect the other partners.							
(InfShar_3)	Our trading partners share proprietary information with us.							
(InfShar_4)	Our trading partners keep us fully informed about issues that affect our business.							
(InfShar_5)	Information exchange between our trading partners and us is timely, accurate, complete, adequate, and reliable.							
3.4 Lean manufacturing		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(LeaMan_1)*	Reducing inventory to expose manufacturing/ scheduling problems.							
(LeaMan_2)	Using new process equipment or technologies.							
(LeaMan_3)	Pursuing a continuous quality improvement program.							
(LeaMan_4)	Reducing set-up time.							
(LeaMan_5)	Reengineering the production processes.							

3.5 Postponement strategy		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(PosStr_1)	Delaying final product assembly activities until customer orders have actually been received.							
(PosStr_2)	Delaying final product assembly activities until the last possible position (or nearest to customers) in the supply chain.							
(PosStr_3)*	Designing our products for modular assembly.							
(PosStr_4)*	Storing our products at appropriate distribution points close to the customers in the supply chain.							
(PosStr_5)*	Re-arranging our production process modules in order that customization can be carried out later at distribution centers.							

IV. Competitive Strategy

Below are items that organizations may apply in pursuing a competitive strategy. For each following item, indicate the importance of the pursued competitive methods to your organization's overall strategy in last three years (2017 March – 2020 March), to manage its competitiveness. (Use: 1 – "most unimportant"; 2 – "moderately unimportant"; 3 – "slightly unimportant"; 4 – "neutral"; 5 – "slightly important"; 6 – "moderately important"; 7 – "most important").

4. Please indicate the importance of the following competitive methods to your organization's overall strategy in last three years 2017 March – 2020 March, (*evaluate from 1 – "most unimportant" to 7 – "most important"*).								
4.1 Cost-leadership strategy		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(CosLea_1)	Pursuing cost advantage of raw material procurement.							
(CosLea_2)	Finding ways to reduce cost of production.							
(CosLea_3)	Emphasizing an efficient way of operation.							
(CosLea_4)	Implementing strict control of cost.							
(CosLea_5)*	Full utilization of production capacity.							
(CosLea_6)	Pricing below competitors.							
4.2 Differentiation strategy		**1**	**2**	**3**	**4**	**5**	**6**	**7**
(DiffStr_1)	Providing product with unique features.							
(DiffStr_2)	Emphasizing continuous improvement of products to secure a long-term competitive edge.							
(DiffStr_3)*	Emphasizing products or services for high-priced market segments.							
(DiffStr_4)	Emphasizing product quality via the use of quality circles or work improvement teams.							
(DiffStr_5)	Emphasizing effective co-ordination among different functional areas to ensure customer satisfaction.							
(DiffStr_6)	Advertising and promoting products/services.							

V. Organizational Performance

Below are items that show your organizational performance. (Use: 1 –"much worse"; 2 – "moderately worse"; 3 – "slightly worse"; 4 – "neutral"; 5 – "slightly better"; 6 – "moderately better"; 7 – "much better").

5. Please evaluate your organization's performance for the last year (2019 March – 2020 March) in the following areas relative to your primary/major industrial competitors, *(evaluate from 1 –"much worse" to 7 – "much better").*							
5.1 Market/operational performance	**1**	**2**	**3**	**4**	**5**	**6**	**7**
(OpePer_1) Overall product quality.							
(OpePer_2) Responsiveness to customers.							
(OpePer_3)* Customer service level.							
(OpePer_4) Delivery speed.							
(OpePer_5) Delivery dependability.							
5.2 Financial performance	**1**	**2**	**3**	**4**	**5**	**6**	**7**
(FinPer_1) Return on investment (ROI).							
(FinPer_2) Growth in return on investment.							
(FinPer_3) Growth in sales.							
(FinPer_4) Return on sales (ROS).							
(FinPer_5) Growth in return on sales.							
(FinPer_6) Growth in market share.							
(FinPer_7) Growth in profit.							

VI. Market competition

Below are items that show market competitiveness. Please, for each item indicate the degree of your agreement or disagreement. (Use: 1 – "very little"; 2 – "little"; 3 – "slightly"; 4 – "neutral"; 5 – "moderately extensive"; 6 – "extensive"; 7 – "very extensive")

6. Please indicate the degree of the following activities that had taken place in your organization's industry in last three years 2017 March – 2020 March, *(evaluate from 1 – "very little" to 7 – "very extensive").*							
	1	**2**	**3**	**4**	**5**	**6**	**7**
(MarCom_1) An increase in the number of major competitors.							
(MarCom_2)* The use of package deals for customers.							
(MarCom_3) The frequency of technological change.							
(MarCom_4) The frequency of new products or service introductions.							
(MarCom_5) The rate of change in price manipulations.							
(MarCom_6) An increase in the number of companies who had access to the same marketing channels.							
(MarCom_7) The frequency of changes in government regulations affecting the industry.							

VI. The effect of pandemic (COVID-19)

The previous questions did not take into consideration the effect of the "COVID-19" pandemic on your organization, as you were asked to answer for the period up to March 2020 (before the onset of the pandemic in Kosovo). Whereas, in this section six questions/items are presented which measure the impact of the pandemic on your organization. For each following item, indicate the degree to which the pandemic has affected your organization. (Use: 1 – "not at all"; 2 – "little"; 3 – "slightly"; 4 – "neutral"; 5 – "to a moderate extent"; 6 – "to a large extent"; 7 – "to an extreme extent").

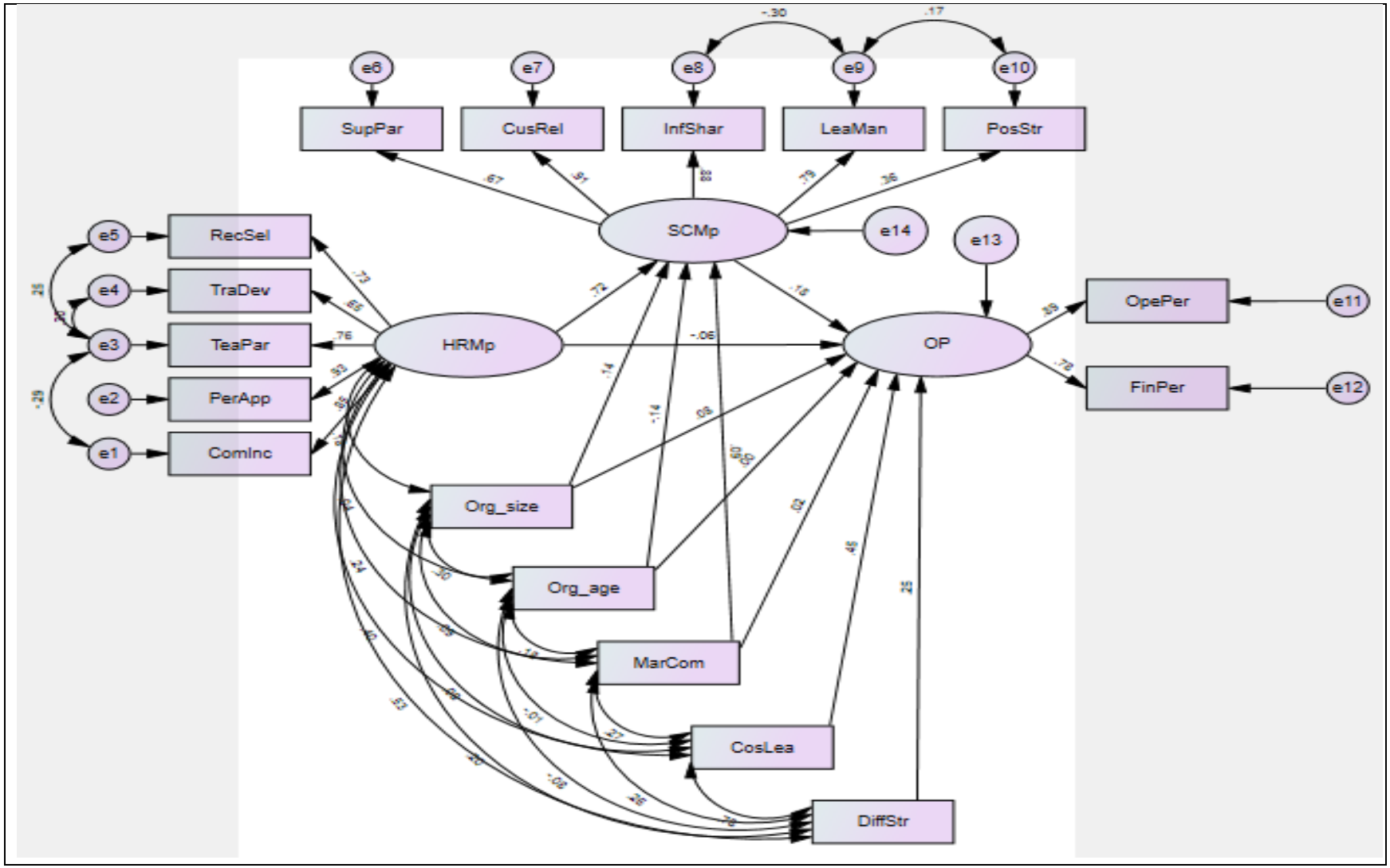
7. As a result of the pandemic (COVID-19), to what extent has changed the following factors in your organization? *(evaluate from 1 – "not at all" to 7 – "to an extreme extent").*

		1	2	3	4	5	6	7
(CovSal_1)	Sales in our organization are reduced.							
(CovMar_2)	The market for our products has decreased.							
(CovPro_3)	Profit in our organization is reduced.							
(CovInc_4)	Incomes of our organization have decreased.							
(CovPro_5)	The amount of production by our organization is reduced.							
(CovPri_6)	The price of our product has decreased.							

Thank you very much for your cooperation and for the time spent to fulfill this questionnaire.

Appendix 2

Structural equation modeling *Source: author*



The fit statistics for the structural model ($\chi^2_{(157)}$= 204.604, df=93, p < .001, $\chi^2_{(157)}$/93 = 2.2; IFI=0.93; NNFI=0.90; CFI=0.93; RMSEA=0.08; SRMR=0.06).

Statistical Appendices

From Chapter V – Data Analyses and Results

5.1 Two-step approach for transforming continuous variables to normal

Statistics

	N			Std.		Std. Error of		Std. Error
	Valid	Missing	Mean	Deviation	Skewness	Skewness	Kurtosis	of Kurtosis
SupPar_1	157	0	6.35	1.024	-2.197	.194	6.338	.385
CusRel_4	157	0	6.47	.997	-2.867	.194	11.069	.385
OpePer_1	157	0	6.46	.902	-2.597	.194	9.913	.385
OpePer_2	157	0	6.64	.810	-2.910	.194	9.296	.385
OpePer_3	157	0	6.64	.698	-2.472	.194	7.225	.385
OpePer_5	157	0	6.57	.753	-2.125	.194	5.007	.385
RSupPar_1	157	0	.503185	.2539761	-.611	.194	-1.361	.385
RCusRel_4	157	0	.503185	.2381196	-.911	.194	-1.004	.385
ROpePer_1	157	0	.503185	.2466789	-.723	.194	-1.270	.385
ROpePer_2	157	0	.503185	.2145499	-1.316	.194	-.168	.385
ROpePer_3	157	0	.503185	.2238868	-1.122	.194	-.640	.385
ROpePer_5	157	0	.503185	.2355010	-.912	.194	-1.025	.385
Nor_SupPar_1	157	0	7.6735	4.11647	-.487	.194	-1.667	.385
Nor_CusRel_4	157	0	7.4637	3.50302	-.849	.194	-1.200	.385
Nor_OpePer_1	157	0	7.3884	3.48372	-.656	.194	-1.464	.385
Nor_OpePer_2	157	0	7.1037	2.57515	-1.316	.194	-.168	.385
Nor_OpePer_3	157	0	7.0247	2.44677	-1.137	.194	-.575	.385
Nor_OpePer_5	157	0	7.1076	2.78076	-.904	.194	-1.053	.385

5.2 Skewness and Kurtosis measurements

Statistics

	N			Std.		Std. Error of		Std. Error
	Valid	Missing	Mean	Deviation	Skewness	Skewness	Kurtosis	of Kurtosis
Org_size	157	0	1.5722	.36273	.335	.194	-.663	.385
Org_age	157	0	1.1785	.30614	-.430	.194	-.561	.385
RecSel_1	157	0	5.30	1.398	-.520	.194	-.199	.385
RecSel_2	157	0	5.50	1.426	-.739	.194	.094	.385
RecSel_3	157	0	6.01	1.152	-1.338	.194	1.750	.385
RecSel_4	157	0	5.61	1.372	-1.129	.194	1.102	.385
RecSel_5	157	0	4.39	1.663	-.086	.194	-.779	.385

TraDev_1	157	0	5.59	1.359	-.859	.194	.536	.385
TraDev_2	157	0	5.42	1.433	-.864	.194	.473	.385
TraDev_3	157	0	4.73	1.650	-.439	.194	-.568	.385
TraDev_4	157	0	5.43	1.533	-1.029	.194	.584	.385
TraDev_5	157	0	5.09	1.673	-.833	.194	-.003	.385
TeaPar_1	157	0	5.81	1.369	-1.457	.194	1.994	.385
TeaPar_2	157	0	5.44	1.516	-.945	.194	.308	.385
TeaPar_3	157	0	5.62	1.408	-1.054	.194	.793	.385
TeaPar_4	157	0	5.29	1.498	-.722	.194	-.257	.385
TeaPar_5	157	0	3.92	1.891	-.058	.194	-1.121	.385
PerApp_1	157	0	5.78	1.288	-1.084	.194	.616	.385
PerApp_2	157	0	5.75	1.235	-1.116	.194	.843	.385
PerApp_3	157	0	5.75	1.269	-1.008	.194	.689	.385
PerApp_4	157	0	5.55	1.361	-.883	.194	.532	.385
PerApp_5	157	0	5.65	1.245	-.943	.194	.570	.385
ComInc_1	157	0	6.02	1.227	-1.365	.194	1.418	.385
ComInc_2	157	0	6.08	1.201	-1.228	.194	.802	.385
ComInc_3	157	0	6.03	1.190	-1.380	.194	1.692	.385
ComInc_4	157	0	5.97	1.436	-1.703	.194	2.670	.385
ComInc_5	157	0	6.03	1.253	-1.448	.194	2.294	.385
Nor_SupPar_1	157	0	7.6735	4.11647	-.487	.194	-1.667	.385
SupPar_2	157	0	5.13	1.649	-.738	.194	-.048	.385
SupPar_3	157	0	5.41	1.485	-.883	.194	.203	.385
SupPar_4	157	0	5.25	1.644	-.784	.194	-.174	.385
SupPar_5	157	0	4.54	1.827	-.396	.194	-.837	.385
CusRel_1	157	0	6.16	1.112	-1.396	.194	1.728	.385
CusRel_2	157	0	6.38	1.016	-1.865	.194	3.067	.385
CusRel_3	157	0	6.27	.998	-1.634	.194	2.579	.385
Nor_CusRel_4	157	0	7.4637	3.50302	-.849	.194	-1.200	.385
CusRel_5	157	0	6.65	.724	-2.232	.194	4.508	.385
InfShar_1	157	0	6.27	1.004	-1.690	.194	3.486	.385
InfShar_2	157	0	6.21	.981	-1.219	.194	.842	.385
InfShar_3	157	0	5.88	1.094	-1.066	.194	1.390	.385
InfShar_4	157	0	5.78	1.232	-1.038	.194	.666	.385
InfShar_5	157	0	6.03	.996	-.773	.194	-.130	.385
LeaMan_1	157	0	4.64	1.676	-.560	.194	-.233	.385
LeaMan_2	157	0	6.10	1.030	-.835	.194	-.246	.385
LeaMan_3	157	0	6.11	1.152	-1.309	.194	1.308	.385

LeaMan_4	157	0	5.71	1.291	-.898	.194	.551	.385
LeaMan_5	157	0	5.48	1.588	-.908	.194	.117	.385
PosStr_1	157	0	4.99	1.770	-.741	.194	-.354	.385
PosStr_2	157	0	5.10	1.653	-.803	.194	.092	.385
PosStr_3	157	0	5.13	1.780	-.909	.194	-.062	.385
PosStr_4	157	0	5.59	1.713	-1.360	.194	1.087	.385
PosStr_5	157	0	5.12	1.688	-.970	.194	.394	.385
CosLea_1	157	0	5.61	1.418	-.750	.194	-.286	.385
CosLea_2	157	0	5.96	1.310	-1.315	.194	1.129	.385
CosLea_3	157	0	6.06	1.139	-1.431	.194	2.484	.385
CosLea_4	157	0	5.78	1.257	-.954	.194	.596	.385
CosLea_5	157	0	6.02	1.232	-1.327	.194	1.451	.385
CosLea_6	157	0	5.14	1.619	-.625	.194	-.425	.385
DiffStr_1	157	0	6.17	1.167	-1.641	.194	2.849	.385
DiffStr_2	157	0	6.30	1.034	-1.614	.194	2.314	.385
DiffStr_3	157	0	4.96	1.541	-.850	.194	.600	.385
DiffStr_4	157	0	5.76	1.297	-1.053	.194	.660	.385
DiffStr_5	157	0	6.06	1.076	-.929	.194	-.181	.385
DiffStr_6	157	0	5.73	1.319	-.892	.194	.051	.385
Nor_OpePer_1	157	0	7.3884	3.48372	-.656	.194	-1.464	.385
Nor_OpePer_2	157	0	7.1037	2.57515	-1.316	.194	-.168	.385
Nor_OpePer_3	157	0	7.0247	2.44677	-1.137	.194	-.575	.385
OpePer_4	157	0	6.41	.920	-1.803	.194	3.112	.385
Nor_OpePer_5	157	0	7.1076	2.78076	-.904	.194	-1.053	.385
FinPer_1	157	0	5.38	1.034	-.137	.194	-.427	.385
FinPer_2	157	0	5.48	1.072	-.511	.194	.167	.385
FinPer_3	157	0	5.85	1.067	-.761	.194	-.147	.385
FinPer_4	157	0	5.30	1.243	-.689	.194	.818	.385
FinPer_5	157	0	5.17	1.392	-.789	.194	.535	.385
FinPer_6	157	0	5.82	.997	-.460	.194	-.655	.385
FinPer_7	157	0	5.34	1.212	-.281	.194	-.537	.385
MarCom_1	157	0	5.51	1.412	-.863	.194	.208	.385
MarCom_2	157	0	5.51	1.319	-1.075	.194	.811	.385
MarCom_3	157	0	5.78	1.207	-.958	.194	.847	.385
MarCom_4	157	0	5.73	1.264	-1.013	.194	.937	.385
MarCom_5	157	0	5.27	1.592	-.787	.194	-.024	.385
MarCom_6	157	0	5.38	1.365	-.676	.194	.035	.385
MarCom_7	157	0	4.73	1.646	-.550	.194	-.334	.385

CovSal_1	157	0	4.50	1.689	-.462	.194	-.588	.385
CovMar_2	157	0	4.16	1.799	-.255	.194	-.861	.385
CovPro_3	157	0	4.55	1.591	-.313	.194	-.538	.385
CovInc_4	157	0	4.50	1.771	-.367	.194	-.873	.385
CovPro_5	157	0	4.15	1.762	-.271	.194	-.839	.385
CovPri_6	157	0	3.82	1.817	-.088	.194	-.951	.385

5.3 Convergent and discriminant validity of the first-order construct - HRM practices

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.858
Bartlett's Test of Sphericity	Approx. Chi-Square	2126.035
	df	190
	Sig.	.000

Goodness-of-fit Test

Chi-Square	df	Sig.
240.125	100	.000

Communalities

	Initial	Extraction
RecSel_1	.524	.481
RecSel_2	.657	.818
RecSel_3	.543	.550
RecSel_4	.361	.308
TraDev_2	.684	.555
TraDev_3	.767	.831
TraDev_4	.689	.627
TraDev_5	.701	.696
TeaPar_1	.571	.511
TeaPar_2	.803	.836
TeaPar_3	.760	.848
PerApp_1	.657	.635
PerApp_2	.719	.792
PerApp_3	.525	.477
PerApp_4	.672	.673
PerApp_5	.725	.703
ComInc_2	.660	.684
ComInc_3	.555	.525
ComInc_4	.731	.677
ComInc_5	.764	.717

Extraction Method: Maximum Likelihood.

Pattern Matrix[a]

	Factor				
	1	2	3	4	5
RecSel_1			.597		
RecSel_2			.943		
RecSel_3			.707		
RecSel_4			.525		
TraDev_2		.679			
TraDev_3		.942			
TraDev_4		.568			
TraDev_5		.754			
TeaPar_1					.574
TeaPar_2					.836
TeaPar_3					.927
PerApp_1	.641				
PerApp_2	.968				
PerApp_3	.583				
PerApp_4	.676				
PerApp_5	.712				
ComInc_2				.787	
ComInc_3				.609	
ComInc_4				.705	
ComInc_5				.711	

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 7 iterations.

Regression Weights

			C.R. (t)	p
RecSel_4	<---	RecSel	6.191	***
RecSel_3	<---	RecSel	10.160	***
RecSel_2	<---	RecSel	12.475	***
RecSel_1	<---	RecSel	9.427	***
TraDev_5	<---	TraDev	13.179	***
TraDev_4	<---	TraDev	11.416	***
TraDev_3	<---	TraDev	12.601	***
TraDev_2	<---	TraDev	10.617	***
TeaPar_3	<---	TeaPar	13.919	***
TeaPar_2	<---	TeaPar	14.315	***
TeaPar_1	<---	TeaPar	9.610	***
PerApp_5	<---	PerApp	12.886	***
PerApp_4	<---	PerApp	12.489	***
PerApp_3	<---	PerApp	9.530	***
PerApp_2	<---	PerApp	11.928	***
PerApp_1	<---	PerApp	11.932	***
ComInc_5	<---	ComInc	12.917	***
ComInc_4	<---	ComInc	11.829	***
ComInc_3	<---	ComInc	9.639	***
ComInc_2	<---	ComInc	11.793	***

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.011	45.055	45.055	8.582	42.910	42.910	6.878
2	1.831	9.155	54.209	1.558	7.792	50.702	5.187
3	1.523	7.616	61.826	1.140	5.699	56.401	5.477
4	1.278	6.392	68.218	.982	4.908	61.309	5.751
5	.942	4.709	72.927	.681	3.407	64.716	5.768
6	.715	3.576	76.504				
7	.648	3.240	79.744				
8	.575	2.876	82.620				
9	.538	2.688	85.308				
10	.461	2.303	87.611				
11	.420	2.102	89.713				
12	.377	1.886	91.599				
13	.327	1.637	93.235				
14	.304	1.520	94.756				
15	.260	1.298	96.054				
16	.231	1.155	97.208				
17	.180	.898	98.107				
18	.170	.852	98.959				
19	.123	.617	99.576				
20	.085	.424	100.000				

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

5.3.1 Means, standard deviations and reliability of the first-order constructs - HRM practices

Reliability Statistics

Cronbach's Alpha	N of Items
.784	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RecSel_1	17.11	10.346	.575	.740
RecSel_2	16.91	9.146	.730	.653
RecSel_3	16.41	11.192	.643	.713
RecSel_4	16.81	11.463	.445	.804

Reliability Statistics

Cronbach's Alpha	N of Items
.873	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TraDev_2	15.25	18.576	.656	.864
TraDev_3	15.94	15.695	.789	.812
TraDev_4	15.24	17.108	.732	.836
TraDev_5	15.59	16.013	.741	.833

Reliability Statistics

Cronbach's Alpha	N of Items
.870	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TeaPar_1	11.06	7.798	.650	.902
TeaPar_2	11.43	6.259	.802	.768
TeaPar_3	11.25	6.739	.810	.762

Reliability Statistics

Cronbach's Alpha	N of Items
.897	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PerApp_1	22.69	18.983	.745	.874
PerApp_2	22.73	19.056	.781	.867
PerApp_3	22.73	19.982	.652	.894
PerApp_4	22.93	18.142	.776	.867
PerApp_5	22.83	19.015	.777	.867

Reliability Statistics

Cronbach's Alpha	N of Items
.855	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ComInc_2	18.04	10.755	.746	.796
ComInc_3	18.08	11.794	.595	.854
ComInc_4	18.14	9.378	.754	.792
ComInc_5	18.08	10.717	.706	.811

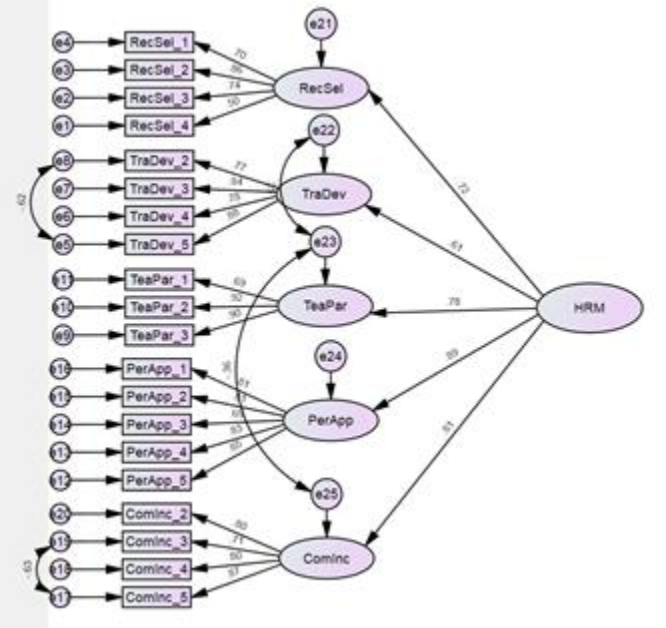
Statistics

		RecSel	TraDev	TeaPar	PerApp	ComInc
N	Valid	157	157	157	157	157
	Missing	0	0	0	0	0
Mean		5.0761	3.9387	4.3258	5.3873	5.7713
Std. Deviation		.93220	.97455	.96156	.96191	.97171

Convergent and discriminant validity

	CR	AVE	MSV	MaxR(H)	PerApp	RecSel	TraDe	TeaPar	ComInc
PerApp	0.898	0.639	0.536	0.905	**0.799**				
RecSel	0.801	0.510	0.393	0.846	0.627	**0.714**			
TraDe	0.890	0.670	0.372	0.898	0.569	0.411	**0.818**		
TeaPar	0.877	0.707	0.456	0.910	0.675	0.598	0.610	**0.841**	
ComInc	0.875	0.638	0.536	0.885	0.732	0.570	0.484	0.499	**0.799**

5.3.2 Validation of the second-order constructs - HRM practices



1. Regression Weights
2. Standardized Regression Weights

1.			C.R. (t)	P
RecSel	<---	HRM	5.389	***
TraDev	<---	HRM	7.196	***
TeaPar	<---	HRM	9.084	***
PerApp	<---	HRM	10.529	***
ComInc	<---	HRM	9.649	***
2.			Estimate	
RecSel	<---	HRM	.719	
TraDev	<---	HRM	.615	
TeaPar	<---	HRM	.779	
PerApp	<---	HRM	.886	
ComInc	<---	HRM	.814	

Model fit summary of the second-order constructs - HRM practices

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	49	362.128	161	.000	2.249
Saturated model	210	.000	0		
Independence model	20	2233.411	190	.000	11.755

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.125	.831	.779	.637
Saturated model	.000	1.000		
Independence model	.782	.218	.135	.197

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.838	.809	.903	.884	.902
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.089	.077	.102	.050
Independence model	.263	.253	.272	.000

Reliability statistics of the second-order constructs - HRM practices

Reliability Statistics

Cronbach's Alpha	N of Items
.893	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RecSel_Amos	19.4230	10.889	.716	.875
TraDev_Amos	20.5605	11.051	.642	.891
TeaPar_Amos	20.1734	10.479	.765	.864
PerApp_Amos	19.1118	10.040	.853	.844
ComInc_Amos	18.7279	10.643	.722	.874

5.4 Convergent and discriminant validity of the first-order construct - SCM practices

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.867
Bartlett's Test of Sphericity	Approx. Chi-Square	1898.882
	df	171
	Sig.	.000

Goodness-of-fit Test

Chi-Square	df	Sig.
175.322	86	.000

Communalities[a]

	Initial	Extraction
SupPar_2	.592	.720
SupPar_3	.542	.581
SupPar_4	.550	.607
SupPar_5	.394	.359
CusRel_2	.765	.805
CusRel_3	.725	.706
CusRel_4	.661	.659
CusRel_5	.788	.837
InfShar_1	.705	.666
InfShar_2	.779	.817
InfShar_3	.665	.679
InfShar_4	.643	.587
InfShar_5	.542	.512
LeaMan_2	.624	.703
LeaMan_3	.661	.776
LeaMan_4	.525	.436
LeaMan_5	.393	.320
PosStr_1	.644	.587
PosStr_2	.686	.999

Extraction Method: Maximum Likelihood.

a. One or more communalitiy estimates greater than 1 were encountered during iterations. The resulting solution should be interpreted with caution.

Pattern Matrix[a]

	Factor				
	1	2	3	4	5
SupPar_2				.883	
SupPar_3				.757	
SupPar_4				.682	
SupPar_5				.588	
CusRel_2		.970			
CusRel_3		.782			
CusRel_4		.519			
CusRel_5		.921			
InfShar_1	.611				
InfShar_2	.928				
InfShar_3	.846				
InfShar_4	.760				
InfShar_5	.780				
LeaMan_2			.886		
LeaMan_3			.910		
LeaMan_4			.536		
LeaMan_5			.495		
PosStr_1					.764
PosStr_2					.992

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 6 iterations.

Regression Weights

			C.R. (t)	p
SupPar_5	<---	SupPar	7.654	***
SupPar_4	<---	SupPar	10.752	***
SupPar_3	<---	SupPar	10.319	***
SupPar_2	<---	SupPar	11.762	***
CusRel_5	<---	CusRel	13.164	***
CusRel_4	<---	CusRel	12.713	***
CusRel_3	<---	CusRel	12.085	***
CusRel_2	<---	CusRel	10.759	***
InfShar_3	<---	InfShar	11.517	***
InfShar_2	<---	InfShar	14.604	***
InfShar_1	<---	InfShar	12.482	***
LeaMan_5	<---	LeaMan	6.812	***
LeaMan_4	<---	LeaMan	8.452	***
LeaMan_3	<---	LeaMan	13.139	***
LeaMan_2	<---	LeaMan	11.970	***
PosStr_2	<---	PosStr	10.251	***
PosStr_1	<---	PosStr	8.454	***
InfShar_4	<---	InfShar	10.062	***
InfShar_5	<---	InfShar	8.982	***

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.994	42.075	42.075	2.625	13.817	13.817	6.060
2	1.899	9.997	52.072	6.457	33.986	47.803	6.010
3	1.653	8.699	60.771	1.130	5.945	53.748	5.200
4	1.353	7.123	67.894	1.254	6.602	60.351	4.473
5	1.092	5.746	73.641	.891	4.691	65.042	2.571
6	.756	3.979	77.620				
7	.646	3.398	81.018				
8	.583	3.070	84.088				
9	.453	2.386	86.474				
10	.393	2.070	88.544				
11	.358	1.886	90.430				
12	.334	1.757	92.187				
13	.316	1.666	93.853				
14	.283	1.490	95.343				
15	.253	1.332	96.675				
16	.205	1.077	97.753				
17	.172	.907	98.659				
18	.143	.753	99.412				
19	.112	.588	100.000				

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

5.4.1 Means, standard deviations and reliability of the first-order constructs - SCM practices

Reliability Statistics

Cronbach's Alpha	N of Items
.820	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SupPar_2	15.21	16.154	.726	.734
SupPar_3	14.93	17.784	.679	.761
SupPar_4	15.09	17.043	.644	.773
SupPar_5	15.80	16.980	.543	.826

Reliability Statistics

Cronbach's Alpha	N of Items
.905	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CusRel_2	19.39	5.971	.811	.869
CusRel_3	19.50	6.072	.807	.870
CusRel_4	19.31	6.380	.726	.900
CusRel_5	19.13	7.189	.856	.869

Reliability Statistics

Cronbach's Alpha	N of Items
.892	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
InfShar_1	23.90	13.728	.686	.880
InfShar_2	23.97	12.993	.832	.850
InfShar_3	24.30	12.673	.767	.862
InfShar_4	24.39	12.074	.730	.874
InfShar_5	24.15	13.728	.693	.878

Reliability Statistics

Cronbach's Alpha	N of Items
.804	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
LeaMan_2	17.30	11.019	.657	.749
LeaMan_3	17.29	10.116	.700	.722
LeaMan_4	17.68	9.783	.634	.747
LeaMan_5	17.92	8.807	.557	.809

Reliability Statistics

Cronbach's Alpha	N of Items
.865	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PosStr_1	5.10	2.733	.765	.
PosStr_2	4.99	3.135	.765	.

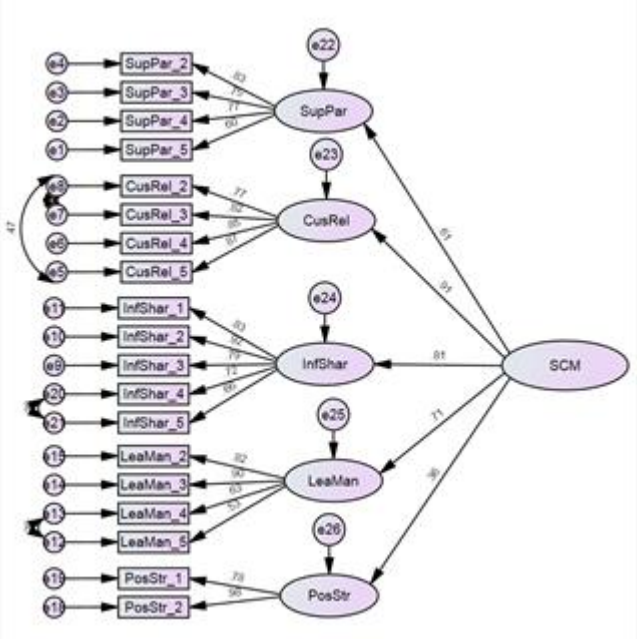
Statistics

		SupPar	CusRel	InfShar	LeaMan	PosStr
N	Valid	157	157	157	157	157
	Missing	0	0	0	0	0
Mean		4.6787	5.0690	4.5525	5.2403	5.1206
Std. Deviation		1.01242	.59661	.63204	.79467	1.57575

Convergent and discriminant validity

	CR	AVE	MSV	MaxR(H)	LeaMan	SupPar	CusRel	InfShar	PosStr
LeaMan	0.821	0.543	0.428	0.874	**0.737**				
SupPar	0.830	0.552	0.274	0.847	0.486	**0.743**			
CusRel	0.896	0.682	0.582	0.901	0.654	0.523	**0.826**		
InfShar	0.890	0.621	0.582	0.917	0.525	0.519	0.763	**0.788**	
PosStr	0.882	0.791	0.159	0.996	0.399	0.282	0.286	0.230	**0.890**

5.4.2 Validation of the second-order constructs - SCM practices



Regression Weights

			C.R.(t)	p
SupPar	<---	SCM	5.558	***
CusRel	<---	SCM	10.834	***
InfShar	<---	SCM	7.548	***
LeaMan	<---	SCM	5.653	***
PosStr	<---	SCM	4.182	***

Standardized Regression Weights

			Estimate
SupPar	<---	SCM	.613
CusRel	<---	SCM	.913
InfShar	<---	SCM	.811
LeaMan	<---	SCM	.711
PosStr	<---	SCM	.360

Model fit summary of the second-order constructs - SCM practices

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	47	220.994	143	.000	1.545
Saturated model	190	.000	0		
Independence model	19	1990.317	171	.000	11.639

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.108	.882	.843	.664
Saturated model	.000	1.000		
Independence model	.586	.251	.168	.226

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.889	.867	.958	.949	.957
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.059	.043	.074	.162
Independence model	.261	.251	.272	.000

Reliability statistics of the second-order constructs - SCM practices

Reliability Statistics

Cronbach's Alpha	N of Items
.748	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SupPar_Amos	19.9824	7.903	.574	.680
CusRel_Amos	19.5920	9.184	.733	.674
InfShar_Amos	20.1086	9.326	.639	.691
LeaMan_Amos	19.4207	8.442	.675	.660
PosStr_Amos	19.5404	6.617	.381	.847

5.5 Convergent and discriminant validity of the first-order construct - Competitive Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.890
Bartlett's Test of Sphericity	Approx. Chi-Square	855.213
	df	45
	Sig.	.000

Goodness-of-fit Test

Chi-Square	df	Sig.
39.515	26	.044

Communalities

	Initial	Extraction
CosLea_1	.501	.521
CosLea_2	.717	.856
CosLea_3	.693	.737
CosLea_4	.546	.567
CosLea_6	.277	.256
DiffStr_1	.457	.437
DiffStr_2	.548	.577
DiffStr_4	.621	.645
DiffStr_5	.624	.735
DiffStr_6	.470	.511

Extraction Method: Maximum Likelihood.

Pattern Matrix[a]

	Factor 1	Factor 2
CosLea_1		.786
CosLea_2		.950
CosLea_3		.638
CosLea_4		.605
CosLea_6		.578
DiffStr_1	.512	
DiffStr_2	.702	
DiffStr_4	.761	
DiffStr_5	.943	
DiffStr_6	.802	

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

Regression Weights

			C.R. (t)	P
CosLea_6	<---	CosLea	6.043	***
CosLea_4	<---	CosLea	10.995	***
CosLea_3	<---	CosLea	13.246	***
CosLea_2	<---	CosLea	13.595	***
CosLea_1	<---	CosLea	9.513	***
DiffStr_6	<---	DiffStr	9.465	***
DiffStr_5	<---	DiffStr	11.754	***
DiffStr_4	<---	DiffStr	12.163	***
DiffStr_2	<---	DiffStr	10.791	***
DiffStr_1	<---	DiffStr	9.628	***

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.222	52.218	52.218	4.808	48.083	48.083	4.243
2	1.441	14.408	66.626	1.034	10.341	58.424	4.067
3	.655	6.552	73.178				
4	.639	6.385	79.563				
5	.510	5.102	84.665				
6	.441	4.412	89.077				
7	.338	3.383	92.460				
8	.304	3.035	95.496				
9	.264	2.643	98.139				
10	.186	1.861	100.000				

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

5.5.1 Means, standard deviations and reliability of the first-order constructs - competitive strategies

Reliability Statistics

Cronbach's Alpha	N of Items
.847	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CosLea_1	22.94	18.401	.672	.810
CosLea_2	22.59	18.001	.797	.777
CosLea_3	22.49	19.982	.717	.804
CosLea_4	22.76	19.540	.671	.812
CosLea_6	23.41	19.051	.489	.871

Reliability Statistics

Cronbach's Alpha	N of Items
.860	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
DiffStr_1	23.85	15.707	.584	.854
DiffStr_2	23.72	15.652	.702	.827
DiffStr_4	24.25	13.922	.709	.823
DiffStr_5	23.96	14.909	.771	.810
DiffStr_6	24.29	14.221	.654	.839

Statistics

		CosLea	DiffStr
N	Valid	157	157
	Missing	0	0
Mean		5.4879	6.1132
Std. Deviation		.95709	.95965

5.5.2 Creating an integrated strategy

CosLea	1=CosLea; 0=Non-CosLea	Centered-mean or de-meaned of CosLea	DiffStr	1=DiffStr; 0=Non-DiffStr	Centered-mean or de-meaned of DiffStr	CosLea_x_DiffStr (Centered variables)	1=IntStr; 0=Non-IntStr (coded 1 if both CosLea and DiffStr are greater than their respective means; 0 otherwise)
5.51	1	0.02	5.62	0	-0.49	-0.0098	0
5.43	0	-0.06	6	0	-0.11	0.0066	0
6.2	1	0.71	6.35	1	0.24	0.1704	1
6.5	1	1.01	7.14	1	1.03	1.0403	1
6.5	1	1.01	7.14	1	1.03	1.0403	1
6.09	1	0.60	6.36	1	0.25	0.15	1
6.5	1	1.01	7.14	1	1.03	1.0403	1
5.08	0	-0.41	6.06	0	-0.05	0.0205	0
6.34	1	0.85	5.9	0	-0.21	-0.1785	0
6.5	1	1.01	7.14	1	1.03	1.0403	1
4.04	0	-1.45	6.46	1	0.35	-0.5075	0
6.09	1	0.60	7.09	1	0.98	0.588	1
5.07	0	-0.42	5.02	0	-1.09	0.4578	0
6.11	1	0.62	7.09	1	0.98	0.6076	1
5.76	1	0.27	6.25	1	0.14	0.0378	1
5.25	0	-0.24	5.92	0	-0.19	0.0456	0
5.38	0	-0.11	6.4	1	0.29	-0.0319	0
5.44	0	-0.05	6.38	1	0.27	-0.0135	0
6.16	1	0.67	6.41	1	0.3	0.201	1
6.5	1	1.01	7.14	1	1.03	1.0403	1
5.3	0	-0.19	5.8	0	-0.31	0.0589	0
6.25	1	0.76	6.83	1	0.72	0.5472	1
6.36	1	0.87	6.3	1	0.19	0.1653	1
5.78	1	0.29	6.48	1	0.37	0.1073	1
6.4	1	0.91	7.13	1	1.02	0.9282	1
4.92	0	-0.57	6.13	1	0.02	-0.0114	0

6.21	1	0.72	6.94	1	0.83	0.5976	1
5.28	0	-0.21	5.19	0	-0.92	0.1932	0
6.18	1	0.69	6.86	1	0.75	0.5175	1
6.26	1	0.77	6.57	1	0.46	0.3542	1
5.29	0	-0.20	4.69	0	-1.42	0.284	0
5.89	1	0.40	5.83	0	-0.28	-0.112	0
6.43	1	0.94	7.14	1	1.03	0.9682	1
6.47	1	0.98	7.14	1	1.03	1.0094	1
6.43	1	0.94	7.14	1	1.03	0.9682	1
4.98	0	-0.51	6.87	1	0.76	-0.3876	0
4.38	0	-1.11	6.7	1	0.59	-0.6549	0
4.13	0	-1.36	5.12	0	-0.99	1.3464	0
2.89	0	-2.60	3.25	0	-2.86	7.436	0
5.35	0	-0.14	7	1	0.89	-0.1246	0
6.47	1	0.98	6.93	1	0.82	0.8036	1
2.93	0	-2.56	6.15	1	0.04	-0.1024	0
5.95	1	0.46	5.58	0	-0.53	-0.2438	0
6.5	1	1.01	7.14	1	1.03	1.0403	1
4.7	0	-0.79	6.26	1	0.15	-0.1185	0
5.25	0	-0.24	5.98	0	-0.13	0.0312	0
5.95	1	0.46	5.01	0	-1.1	-0.506	0
5.83	1	0.34	6.23	1	0.12	0.0408	1
4.85	0	-0.64	5.48	0	-0.63	0.4032	0
4.95	0	-0.54	5.25	0	-0.86	0.4644	0
5.36	0	-0.13	6.32	1	0.21	-0.0273	0
5.87	1	0.38	6.6	1	0.49	0.1862	1
5.28	0	-0.21	5.33	0	-0.78	0.1638	0
6.47	1	0.98	7.14	1	1.03	1.0094	1
6.09	1	0.60	6.92	1	0.81	0.486	1
4.52	0	-0.97	4.18	0	-1.93	1.8721	0
6.41	1	0.92	6.97	1	0.86	0.7912	1
6.33	1	0.84	5.84	0	-0.27	-0.2268	0
6.09	1	0.60	6.06	0	-0.05	-0.03	0
6.46	1	0.97	6.8	1	0.69	0.6693	1
6.29	1	0.80	6.52	1	0.41	0.328	1
6.26	1	0.77	5.95	0	-0.16	-0.1232	0
6.06	1	0.57	6.32	1	0.21	0.1197	1
1.15	0	-4.34	2.39	0	-3.72	16.1448	0
6.5	1	1.01	7.14	1	1.03	1.0403	1
6.13	1	0.64	6.81	1	0.7	0.448	1
5.46	0	-0.03	6.44	1	0.33	-0.0099	0

2.74	0	-2.75	3.6	0	-2.51	6.9025	0
6.46	1	0.97	6.8	1	0.69	0.6693	1
6.1	1	0.61	7.09	1	0.98	0.5978	1
5.57	1	0.08	6.12	1	0.01	0.0008	1
6.19	1	0.70	6.68	1	0.57	0.399	1
5.26	0	-0.23	6.7	1	0.59	-0.1357	0
5.48	0	-0.01	5.94	0	-0.17	0.0017	0
6.17	1	0.68	6.73	1	0.62	0.4216	1
6.14	1	0.65	6.92	1	0.81	0.5265	1
6.37	1	0.88	7.13	1	1.02	0.8976	1
5.02	0	-0.47	5.38	0	-0.73	0.3431	0
6.4	1	0.91	6.84	1	0.73	0.6643	1
3.39	0	-2.10	4.95	0	-1.16	2.436	0
6.43	1	0.94	7.14	1	1.03	0.9682	1
5.94	1	0.45	6.36	1	0.25	0.1125	1
3.96	0	-1.53	5.61	0	-0.5	0.765	0
5.06	0	-0.43	5.55	0	-0.56	0.2408	0
6.25	1	0.76	7.11	1	1	0.76	1
3.75	0	-1.74	4.3	0	-1.81	3.1494	0
6.43	1	0.94	6.59	1	0.48	0.4512	1
5.35	0	-0.14	6.21	1	0.1	-0.014	0
5.15	0	-0.34	6.97	1	0.86	-0.2924	0
5.78	1	0.29	6.62	1	0.51	0.1479	1
6.5	1	1.01	7.14	1	1.03	1.0403	1
5.24	0	-0.25	6.08	0	-0.03	0.0075	0
6.5	1	1.01	7.14	1	1.03	1.0403	1
6.1	1	0.61	7.09	1	0.98	0.5978	1
4.78	0	-0.71	4.43	0	-1.68	1.1928	0
5.07	0	-0.42	4.68	0	-1.43	0.6006	0
5.48	0	-0.01	6.03	0	-0.08	0.0008	0
5.04	0	-0.45	5.91	0	-0.2	0.09	0
6.1	1	0.61	6.23	1	0.12	0.0732	1
5.69	1	0.20	6.03	0	-0.08	-0.016	0
5.96	1	0.47	6.64	1	0.53	0.2491	1
5.44	0	-0.05	5.37	0	-0.74	0.037	0
6.3	1	0.81	7.12	1	1.01	0.8181	1
6.27	1	0.78	7.11	1	1	0.78	1
4.29	0	-1.20	5.33	0	-0.78	0.936	0
5.56	1	0.07	6.44	1	0.33	0.0231	1
5.19	0	-0.30	5.58	0	-0.53	0.159	0
6.06	1	0.57	6.03	0	-0.08	-0.0456	0

5.29	0	-0.20	4.02	0	-2.09	0.418	0
3.62	0	-1.87	4.87	0	-1.24	2.3188	0
6.43	1	0.94	6.85	1	0.74	0.6956	1
3.72	0	-1.77	4.08	0	-2.03	3.5931	0
5.9	1	0.41	6.99	1	0.88	0.3608	1
4.37	0	-1.12	5.07	0	-1.04	1.1648	0
5.58	1	0.09	6.06	0	-0.05	-0.0045	0
5.49	1	0.00	5.97	0	-0.14	0	0
3.66	0	-1.83	3.65	0	-2.46	4.5018	0
3.94	0	-1.55	4.17	0	-1.94	3.007	0
5.76	1	0.27	7.05	1	0.94	0.2538	1
6.29	1	0.80	7.12	1	1.01	0.808	1
3.37	0	-2.12	5.76	0	-0.35	0.742	0
5.68	1	0.19	6.46	1	0.35	0.0665	1
5.57	1	0.08	5.46	0	-0.65	-0.052	0
5.31	0	-0.18	5.56	0	-0.55	0.099	0
5.11	0	-0.38	5.64	0	-0.47	0.1786	0
4.94	0	-0.55	6.45	1	0.34	-0.187	0
6.37	1	0.88	7.13	1	1.02	0.8976	1
4.45	0	-1.04	6.55	1	0.44	-0.4576	0
5.69	1	0.20	6.04	0	-0.07	-0.014	0
6.35	1	0.86	7.13	1	1.02	0.8772	1
6.46	1	0.97	6.84	1	0.73	0.7081	1
4.31	0	-1.18	5.23	0	-0.88	1.0384	0
3.94	0	-1.55	4.47	0	-1.64	2.542	0
5.79	1	0.30	6.41	1	0.3	0.09	1
5.58	1	0.09	5.95	0	-0.16	-0.0144	0
4.01	0	-1.48	4.2	0	-1.91	2.8268	0
6.5	1	1.01	7.14	1	1.03	1.0403	1
4.04	0	-1.45	6.46	1	0.35	-0.5075	0
6.09	1	0.60	7.09	1	0.98	0.588	1
5.07	0	-0.42	5.02	0	-1.09	0.4578	0
6.11	1	0.62	7.09	1	0.98	0.6076	1
5.76	1	0.27	6.25	1	0.14	0.0378	1
5.25	0	-0.24	5.92	0	-0.19	0.0456	0
5.38	0	-0.11	6.4	1	0.29	-0.0319	0
5.44	0	-0.05	6.38	1	0.27	-0.0135	0
6.16	1	0.67	6.41	1	0.3	0.201	1
5.44	0	-0.05	5.37	0	-0.74	0.037	0
6.3	1	0.81	7.12	1	1.01	0.8181	1
6.27	1	0.78	7.11	1	1	0.78	1

4.29	0	-1.20	5.33	0	-0.78	0.936	0
5.56	1	0.07	6.44	1	0.33	0.0231	1
5.19	0	-0.30	5.58	0	-0.53	0.159	0
6.06	1	0.57	6.03	0	-0.08	-0.0456	0
5.29	0	-0.20	4.02	0	-2.09	0.418	0
3.62	0	-1.87	4.87	0	-1.24	2.3188	0
6.43	1	0.94	6.85	1	0.74	0.6956	1
3.72	0	-1.77	4.08	0	-2.03	3.5931	0
Mean	Nr. CosLea Org.		Mean	Nr. DiffStr Org.			Nr. IntStr Org.
5.49	88		6.11	91			72

5.6 Convergent and discriminant validity of the first-order construct - Organizational Performance

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.852
Bartlett's Test of Sphericity	Approx. Chi-Square	1080.784
	df	55
	Sig.	.000

Goodness-of-fit Test

Chi-Square	df	Sig.
173.178	34	.000

Communalities

	Initial	Extraction
OpePer_1	.511	.489
OpePer_2	.584	.599
OpePer_4	.669	.716
OpePer_5	.724	.855
FinPer_1	.622	.552
FinPer_2	.641	.632
FinPer_3	.698	.697
FinPer_4	.673	.473
FinPer_5	.618	.387
FinPer_6	.654	.619
FinPer_7	.467	.445

Extraction Method: Maximum Likelihood.

Pattern Matrix[a]

	Factor 1	Factor 2
OpePer_1		.684
OpePer_2		.743
OpePer_4		.870
OpePer_5		.995
FinPer_1	.689	
FinPer_2	.837	
FinPer_3	.658	
FinPer_4	.701	
FinPer_5	.680	
FinPer_6	.607	
FinPer_7	.722	

Extraction Method: Maximum Likelihood.

Rotation Method: Promax with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

Regression Weights

			C.R. (t)	p
OpePer_5	<---	OpePer	14.231	***
OpePer_4	<---	OpePer	12.665	***
OpePer_2	<---	OpePer	11.321	***
OpePer_1	<---	OpePer	9.820	***
FinPer_7	<---	FinPer	8.542	***
FinPer_6	<---	FinPer	11.261	***
FinPer_5	<---	FinPer	6.391	***
FinPer_4	<---	FinPer	7.877	***
FinPer_3	<---	FinPer	12.695	***
FinPer_2	<---	FinPer	9.186	***
FinPer_1	<---	FinPer	8.765	***

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.529	50.263	50.263	4.980	45.277	45.277	4.502
2	1.725	15.680	65.943	1.482	13.473	58.750	4.144
3	.963	8.753	74.696				
4	.682	6.197	80.893				
5	.554	5.038	85.931				
6	.381	3.462	89.393				
7	.330	2.997	92.390				
8	.256	2.324	94.714				
9	.221	2.013	96.727				
10	.187	1.700	98.427				
11	.173	1.573	100.000				

Extraction Method: Maximum Likelihood.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

5.6.1 Means, standard deviations and reliability of the first-order constructs - organizational performance

Reliability Statistics

Cronbach's Alpha	N of Items
.878	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OpePer_1	19.62	4.968	.662	.876
OpePer_2	19.45	5.069	.747	.841
OpePer_4	19.68	4.682	.734	.847
OpePer_5	19.51	5.059	.833	.813

Reliability Statistics

Cronbach's Alpha	N of Items
.878	7

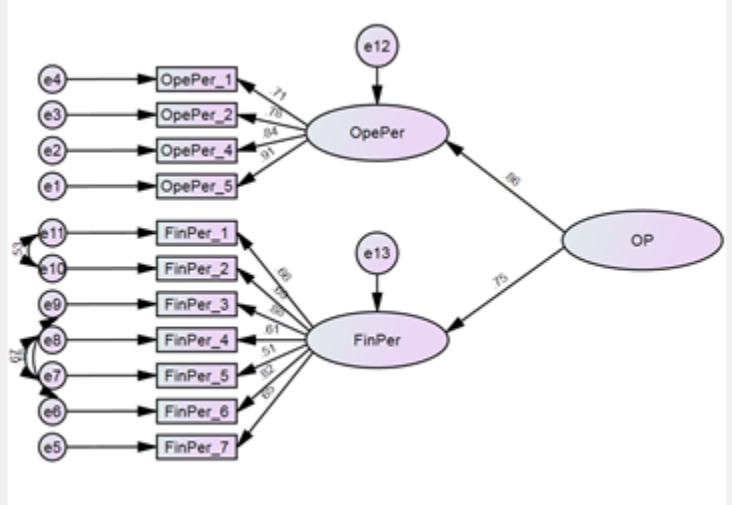
Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FinPer_1	32.96	29.101	.666	.861
FinPer_2	32.86	28.173	.727	.853
FinPer_3	32.48	28.110	.738	.852
FinPer_4	33.04	27.204	.683	.853
FinPer_5	33.17	26.985	.600	.873
FinPer_6	32.52	29.123	.695	.853
FinPer_7	33.00	28.590	.582	.871

Statistics

		OpePer	FinPer
N	Valid	157	157
	Missing	0	0
Mean		5.9437	5.1301
Std. Deviation		.65390	.73656

5.6.2 Validation of the second-order constructs - organizational performance



Standardized Regression Weights

	Estimate
OpePer <--- OP	.856
FinPer <--- OP	.749

Model fit summary of the second-order constructs - organizational performance

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	26	76.842	40	.000	1.921
Saturated model	66	.000	0		
Independence model	11	1112.886	55	.000	20.234

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.059	.923	.873	.559
Saturated model	.000	1.000		
Independence model	.468	.308	.170	.257

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.931	.905	.966	.952	.965
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.077	.050	.103	.048
Independence model	.351	.333	.369	.000

Reliability statistics of the second-order constructs - organizational performance

Reliability Statistics

Cronbach's Alpha	N of Items
.821	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OpePer_Amos	5.1301	.543	.702	.
FinPer_Amos	5.9437	.428	.702	.

5.7 Convergent and discriminant validity of the first-order construct - Market Competition

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.801
Bartlett's Test of Sphericity	Approx. Chi-Square	277.810
	df	15
	Sig.	.000

Goodness-of-fit Test

Chi-Square	df	Sig.
34.096	9	.000

Factor Matrix[a]

	Factor 1
MarCom_1	.689
MarCom_3	.615
MarCom_4	.537
MarCom_5	.658
MarCom_6	.763
MarCom_7	.580

Extraction Method: Maximum Likelihood.

a. 1 factors extracted. 4 iterations required.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.061	51.022	51.022	2.493	41.550	41.550
2	.924	15.406	66.428			
3	.708	11.795	78.223			
4	.489	8.157	86.380			
5	.433	7.220	93.600			
6	.384	6.400	100.000			

Extraction Method: Maximum Likelihood.

5.7.1 Means, standard deviations and reliability of the first-order constructs - market competition

Reliability Statistics

Cronbach's Alpha	N of Items
.802	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MarCom_1	26.89	26.141	.590	.764
MarCom_3	26.62	28.071	.557	.774
MarCom_4	26.67	28.595	.478	.788
MarCom_5	27.12	24.928	.578	.767
MarCom_6	27.02	25.557	.669	.747
MarCom_7	27.66	25.469	.510	.786

Statistics

		MarCom
N	Valid	157
	Missing	0
Mean		4.5750
Std. Deviation		.90499

5.8 Descriptive statistics and correlation matrix of the main study variables

Descriptive Statistics

	Mean	Std. Deviation	N
HRMp	5.7861	.94189	157
SCMp	8.2756	.97459	157
CosLea	5.4879	.95709	157
DiffStr	6.1132	.95965	157
IntStr	.46	.500	157
OP	4.5554	.50687	157
MarCom	4.5750	.90499	157
Org_age	1.1785	.30614	157
Org_size	1.5722	.36273	157

Correlations

		HRMp	SCMp	CosLea	DiffStr	IntStr	OP	MarCom	Org_age	Org_size
HRMp	Pearson Correlation	1	.678**	.360**	.490**	-.015	.346**	.228**	.025	.168*
	Sig. (2-tailed)		.000	.000	.000	.854	.000	.004	.752	.036
	N	157	157	157	157	157	157	157	157	157
SCMp	Pearson Correlation	.678**	1	.427**	.523**	.017	.440**	.206**	-.040	.232**
	Sig. (2-tailed)	.000		.000	.000	.832	.000	.010	.617	.003
	N	157	157	157	157	157	157	157	157	157
CosLea	Pearson Correlation	.360**	.427**	1	.681**	-.059	.649**	.270**	-.005	.083
	Sig. (2-tailed)	.000	.000		.000	.464	.000	.001	.946	.299
	N	157	157	157	157	157	157	157	157	157
DiffStr	Pearson Correlation	.490**	.523**	.681**	1	-.071	.629**	.258**	-.083	.195*
	Sig. (2-tailed)	.000	.000	.000		.376	.000	.001	.301	.014
	N	157	157	157	157	157	157	157	157	157
IntStr	Pearson Correlation	-.015	.017	-.059	-.071	1	.046	.003	.115	.156
	Sig. (2-tailed)	.854	.832	.464	.376		.568	.966	.152	.052
	N	157	157	157	157	157	157	157	157	157
OP	Pearson Correlation	.346**	.440**	.649**	.629**	.046	1	.231**	-.007	.185*
	Sig. (2-tailed)	.000	.000	.000	.000	.568		.004	.926	.020
	N	157	157	157	157	157	157	157	157	157
MarCom	Pearson Correlation	.228**	.206**	.270**	.258**	.003	.231**	1	.178*	.092
	Sig. (2-tailed)	.004	.010	.001	.001	.966	.004		.026	.253
	N	157	157	157	157	157	157	157	157	157
Org_age	Pearson Correlation	.025	-.040	-.005	-.083	.115	-.007	.178*	1	.298**
	Sig. (2-tailed)	.752	.617	.946	.301	.152	.926	.026		.000
	N	157	157	157	157	157	157	157	157	157
Org_size	Pearson Correlation	.168*	.232**	.083	.195*	.156	.185*	.092	.298**	1
	Sig. (2-tailed)	.036	.003	.299	.014	.052	.020	.253	.000	
	N	157	157	157	157	157	157	157	157	157

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

5.9 Regression results

5.9.1 Results of hierarchical regression analysis on SCM practices – (Model 1)

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MarCom, Org_size, Org_age[b]	.	Enter
2	HRMp[b]	.	Enter

a. Dependent Variable: SCMp

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.331[a]	.110	.092	.92860	.110	6.279	3	153	.000
2	.698[b]	.488	.474	.70661	.378	112.234	1	152	.000

a. Predictors: (Constant), MarCom, Org_size, Org_age

b. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.242	3	5.414	6.279	.000[b]
	Residual	131.930	153	.862		
	Total	148.172	156			
2	Regression	72.279	4	18.070	36.191	.000[c]
	Residual	75.893	152	.499		
	Total	148.172	156			

a. Dependent Variable: SCMp

b. Predictors: (Constant), MarCom, Org_size, Org_age

c. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	6.728	.502		13.414	.000		
	Org_size	.696	.215	.259	3.240	.001	.909	1.100
	Org_age	-.493	.258	-.155	-1.912	.058	.888	1.126
	MarCom	.226	.084	.210	2.703	.008	.967	1.034
2	(Constant)	3.898	.466		8.366	.000		
	Org_size	.410	.166	.153	2.475	.014	.885	1.130
	Org_age	-.362	.196	-.114	-1.844	.067	.885	1.130
	MarCom	.071	.065	.066	1.095	.275	.919	1.089
	HRMp	.662	.063	.640	10.594	.000	.923	1.084

a. Dependent Variable: SCMp

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	HRMp	.640[b]	10.594	.000	.652	.923	1.084	.885

a. Dependent Variable: SCMp

b. Predictors in the Model: (Constant), MarCom, Org_size, Org_age

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Org_size	Org_age	MarCom	HRMp
1	1	3.901	1.000	.00	.00	.00	.00	
	2	.044	9.412	.03	.01	.71	.30	
	3	.039	9.971	.00	.78	.27	.13	
	4	.015	15.900	.97	.21	.02	.56	
2	1	4.876	1.000	.00	.00	.00	.00	.00
	2	.050	9.832	.01	.03	.69	.09	.08
	3	.039	11.140	.00	.75	.20	.17	.00
	4	.023	14.431	.03	.19	.04	.66	.39
	5	.011	21.165	.96	.03	.06	.08	.53

a. Dependent Variable: SCMp

5.9.2 Results of hierarchical regression analysis on org. performance – (Models 1,2,3 and 4)

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MarCom, Org_size, Org_age[b]	.	Enter
2	HRMp[b]	.	Enter
3	SCMp[b]	.	Enter
4	CosLea, DiffStr[b]	.	Enter
5	CosLea_x_DiffStr[b]	.	Enter

a. Dependent Variable: OP

b. All requested variables entered.

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.301[a]	.091	.073	.48806	.091	5.085	3	153	.002
2	.407[b]	.166	.144	.46902	.075	13.674	1	152	.000
3	.474[c]	.225	.199	.45360	.059	11.511	1	151	.001
4	.694[d]	.481	.457	.37354	.256	36.833	2	149	.000
5	.730[e]	.533	.507	.35575	.051	16.274	1	148	.000

a. Predictors: (Constant), MarCom, Org_size, Org_age

b. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp

c. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp

d. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr

e. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr, CosLea_x_DiffStr

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.634	3	1.211	5.085	.002[b]
	Residual	36.446	153	.238		
	Total	40.079	156			
2	Regression	6.642	4	1.660	7.548	.000[c]
	Residual	33.438	152	.220		
	Total	40.079	156			
3	Regression	9.010	5	1.802	8.758	.000[d]
	Residual	31.069	151	.206		
	Total	40.079	156			
4	Regression	19.289	7	2.756	19.749	.000[e]
	Residual	20.790	149	.140		
	Total	40.079	156			
5	Regression	21.349	8	2.669	21.086	.000[f]
	Residual	18.731	148	.127		
	Total	40.079	156			

a. Dependent Variable: OP

b. Predictors: (Constant), MarCom, Org_size, Org_age

c. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp

d. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp

e. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr

f. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr, CosLea_x_DiffStr

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.740	.264		14.186	.000		
	Org_size	.274	.113	.196	2.427	.016	.909	1.100
	Org_age	-.177	.135	-.107	-1.311	.192	.888	1.126
	MarCom	.130	.044	.232	2.956	.004	.967	1.034
2	(Constant)	3.084	.309		9.972	.000		
	Org_size	.208	.110	.149	1.889	.061	.885	1.130
	Org_age	-.147	.130	-.089	-1.129	.261	.885	1.130
	MarCom	.094	.043	.168	2.172	.031	.919	1.089
	HRMp	.153	.042	.285	3.698	.000	.923	1.084
3	(Constant)	2.395	.361		6.627	.000		
	Org_size	.135	.109	.097	1.248	.214	.851	1.175
	Org_age	-.083	.128	-.050	-.653	.515	.865	1.156
	MarCom	.081	.042	.145	1.937	.055	.911	1.097
	HRMp	.036	.053	.068	.689	.492	.531	1.884
	SCMp	.177	.052	.340	3.393	.001	.512	1.952
4	(Constant)	1.879	.304		6.179	.000		
	Org_size	.110	.091	.079	1.204	.230	.815	1.227
	Org_age	-.016	.107	-.009	-.146	.884	.829	1.206
	MarCom	.019	.035	.034	.542	.589	.873	1.145
	HRMp	-.015	.045	-.028	-.334	.739	.503	1.990
	SCMp	.073	.045	.141	1.649	.101	.474	2.108
	CosLea	.214	.051	.404	4.166	.000	.370	2.705
	DiffStr	.121	.056	.229	2.161	.032	.311	3.213
5	(Constant)	2.271	.305		7.434	.000		
	Org_size	.097	.087	.070	1.119	.265	.814	1.228
	Org_age	.005	.102	.003	.048	.962	.827	1.209
	MarCom	.031	.034	.055	.910	.364	.867	1.154
	HRMp	.032	.044	.060	.725	.469	.468	2.139
	SCMp	.087	.043	.167	2.040	.043	.471	2.121
	CosLea	.159	.051	.299	3.118	.002	.343	2.919
	DiffStr	.045	.056	.086	.803	.423	.277	3.609
	CosLea_x_DiffStr	-.093	.023	-.304	-4.034	.000	.557	1.794

a. Dependent Variable: OP

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics: Tolerance	VIF	Minimum Tolerance
1	HRMp	.285[b]	3.698	.000	.287	.923	1.084	.885
	SCMp	.385[b]	5.074	.000	.381	.890	1.123	.851
	CosLea	.620[b]	9.822	.000	.623	.918	1.089	.883
	DiffStr	.602[b]	8.960	.000	.588	.868	1.152	.853
	CosLea_x_DiffStr	-.518[b]	-7.860	.000	-.538	.978	1.023	.875
2	SCMp	.340[c]	3.393	.001	.266	.512	1.952	.512
	CosLea	.588[c]	8.899	.000	.587	.830	1.205	.830
	DiffStr	.586[c]	7.812	.000	.536	.699	1.430	.699
	CosLea_x_DiffStr	-.528[c]	-8.558	.000	-.572	.977	1.024	.871
3	CosLea	.556[d]	8.207	.000	.557	.777	1.287	.479
	DiffStr	.547[d]	7.125	.000	.503	.654	1.529	.479
	CosLea_x_DiffStr	-.506[d]	-8.358	.000	-.564	.963	1.039	.505
4	CosLea_x_DiffStr	-.304[e]	-4.034	.000	-.315	.557	1.794	.277

a. Dependent Variable: OP

b. Predictors in the Model: (Constant), MarCom, Org_size, Org_age

c. Predictors in the Model: (Constant), MarCom, Org_size, Org_age, HRMp

d. Predictors in the Model: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp

e. Predictors in the Model: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions: (Constant)	Org_size	Org_age	MarCom	HRMp	SCMp	CosLea	DiffStr	CosLea_x_DiffStr
1	1	3.901	1.000	.00	.00	.00	.00					
	2	.044	9.412	.03	.01	.71	.30					
	3	.039	9.971	.00	.78	.27	.13					
	4	.015	15.900	.97	.21	.02	.56					
2	1	4.876	1.000	.00	.00	.00	.00	.00				
	2	.050	9.832	.01	.03	.69	.09	.08				
	3	.039	11.140	.00	.75	.20	.17	.00				

	4	.023	14.431	.03	.19	.04	.66	.39				
	5	.011	21.165	.96	.03	.06	.08	.53				
3	1	5.863	1.000	.00	.00	.00	.00	.00	.00			
	2	.056	10.253	.00	.04	.65	.03	.03	.01			
	3	.039	12.195	.00	.70	.14	.21	.00	.00			
	4	.026	15.103	.01	.22	.11	.70	.10	.02			
	5	.011	22.908	.51	.03	.04	.06	.45	.02			
	6	.005	35.586	.48	.01	.05	.00	.42	.95			
4	1	7.824	1.000	.00	.00	.00	.00	.00	.00	.00	.00	
	2	.068	10.754	.00	.06	.48	.00	.01	.00	.02	.01	
	3	.040	14.025	.00	.66	.16	.18	.00	.00	.00	.00	
	4	.027	17.005	.00	.15	.20	.78	.01	.00	.03	.01	
	5	.021	19.453	.01	.04	.01	.00	.24	.04	.18	.04	
	6	.011	26.863	.57	.03	.06	.04	.31	.03	.01	.01	
	7	.005	39.332	.06	.03	.01	.00	.00	.18	.60	.79	
	8	.004	41.700	.36	.04	.08	.00	.42	.75	.17	.14	
5	1	7.979	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.858	3.050	.00	.00	.00	.00	.00	.00	.00	.00	.53
	3	.063	11.233	.00	.08	.53	.00	.01	.00	.01	.01	.03
	4	.040	14.177	.00	.65	.18	.17	.00	.00	.00	.00	.00
	5	.027	17.250	.00	.17	.17	.78	.03	.01	.01	.00	.00
	6	.014	23.856	.03	.01	.01	.03	.44	.02	.23	.03	.20
	7	.010	28.808	.53	.05	.03	.01	.08	.08	.17	.03	.19
	8	.005	39.888	.06	.02	.01	.00	.01	.30	.42	.68	.01
	9	.004	42.654	.38	.03	.08	.00	.43	.59	.16	.25	.03

a. Dependent Variable: OP

5.9.2.1 Results of hierarchical regression analysis on org. performance (with integrated strategy)

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MarCom, Org_size, Org_age[b]	.	Enter
2	HRMp[b]	.	Enter
3	SCMp[b]	.	Enter
4	CosLea, DiffStr[b]	.	Enter
5	IntStr_Dummy_V[b]	.	Enter

a. Dependent Variable: OP

b. All requested variables entered.

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.301[a]	.091	.073	.48806	.091	5.085	3	153	.002
2	.407[b]	.166	.144	.46902	.075	13.674	1	152	.000
3	.474[c]	.225	.199	.45360	.059	11.511	1	151	.001
4	.694[d]	.481	.457	.37354	.256	36.833	2	149	.000
5	.698[e]	.487	.459	.37285	.005	1.551	1	148	.215

a. Predictors: (Constant), MarCom, Org_size, Org_age

b. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp

c. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp

d. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr

e. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr, IntStr_Dummy_V

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.634	3	1.211	5.085	.002[b]
	Residual	36.446	153	.238		
	Total	40.079	156			
2	Regression	6.642	4	1.660	7.548	.000[c]
	Residual	33.438	152	.220		
	Total	40.079	156			
3	Regression	9.010	5	1.802	8.758	.000[d]
	Residual	31.069	151	.206		
	Total	40.079	156			
4	Regression	19.289	7	2.756	19.749	.000[e]
	Residual	20.790	149	.140		
	Total	40.079	156			
5	Regression	19.505	8	2.438	17.538	.000[f]
	Residual	20.575	148	.139		
	Total	40.079	156			

a. Dependent Variable: OP

b. Predictors: (Constant), MarCom, Org_size, Org_age

c. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp

d. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp

e. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr

f. Predictors: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr, IntStr_Dummy_V

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.740	.264		14.186	.000		
	Org_size	.274	.113	.196	2.427	.016	.909	1.100
	Org_age	-.177	.135	-.107	-1.311	.192	.888	1.126
	MarCom	.130	.044	.232	2.956	.004	.967	1.034
2	(Constant)	3.084	.309		9.972	.000		
	Org_size	.208	.110	.149	1.889	.061	.885	1.130
	Org_age	-.147	.130	-.089	-1.129	.261	.885	1.130
	MarCom	.094	.043	.168	2.172	.031	.919	1.089
	HRMp	.153	.042	.285	3.698	.000	.923	1.084
3	(Constant)	2.395	.361		6.627	.000		
	Org_size	.135	.109	.097	1.248	.214	.851	1.175
	Org_age	-.083	.128	-.050	-.653	.515	.865	1.156
	MarCom	.081	.042	.145	1.937	.055	.911	1.097
	HRMp	.036	.053	.068	.689	.492	.531	1.884
	SCMp	.177	.052	.340	3.393	.001	.512	1.952
4	(Constant)	1.879	.304		6.179	.000		
	Org_size	.110	.091	.079	1.204	.230	.815	1.227
	Org_age	-.016	.107	-.009	-.146	.884	.829	1.206
	MarCom	.019	.035	.034	.542	.589	.873	1.145
	HRMp	-.015	.045	-.028	-.334	.739	.503	1.990
	SCMp	.073	.045	.141	1.649	.101	.474	2.108
	CosLea	.214	.051	.404	4.166	.000	.370	2.705
	DiffStr	.121	.056	.229	2.161	.032	.311	3.213
5	(Constant)	1.864	.304		6.138	.000		
	Org_size	.094	.092	.068	1.026	.307	.800	1.250
	Org_age	-.024	.107	-.014	-.220	.826	.826	1.210
	MarCom	.019	.035	.034	.542	.589	.873	1.145
	HRMp	-.014	.045	-.026	-.308	.758	.502	1.991
	SCMp	.071	.045	.136	1.594	.113	.473	2.113
	CosLea	.214	.051	.404	4.172	.000	.370	2.705
	DiffStr	.125	.056	.237	2.243	.026	.310	3.227
	IntStr_Dummy_V	.076	.061	.075	1.245	.215	.960	1.042

a. Dependent Variable: OP

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics: Tolerance	VIF	Minimum Tolerance
1	HRMp	.285[b]	3.698	.000	.287	.923	1.084	.885
	SCMp	.385[b]	5.074	.000	.381	.890	1.123	.851
	CosLea	.620[b]	9.822	.000	.623	.918	1.089	.883
	DiffStr	.602[b]	8.960	.000	.588	.868	1.152	.853
	IntStr_Dummy_V	.028[b]	.353	.724	.029	.970	1.031	.883
2	SCMp	.340[c]	3.393	.001	.266	.512	1.952	.512
	CosLea	.588[c]	8.899	.000	.587	.830	1.205	.830
	DiffStr	.586[c]	7.812	.000	.536	.699	1.430	.699
	IntStr_Dummy_V	.038[c]	.501	.617	.041	.969	1.032	.870
3	CosLea	.556[d]	8.207	.000	.557	.777	1.287	.479
	DiffStr	.547[d]	7.125	.000	.503	.654	1.529	.479
	IntStr_Dummy_V	.032[d]	.443	.659	.036	.968	1.033	.512
4	IntStr_Dummy_V	.075[e]	1.245	.215	.102	.960	1.042	.310

a. Dependent Variable: OP

b. Predictors in the Model: (Constant), MarCom, Org_size, Org_age

c. Predictors in the Model: (Constant), MarCom, Org_size, Org_age, HRMp

d. Predictors in the Model: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp

e. Predictors in the Model: (Constant), MarCom, Org_size, Org_age, HRMp, SCMp, CosLea, DiffStr

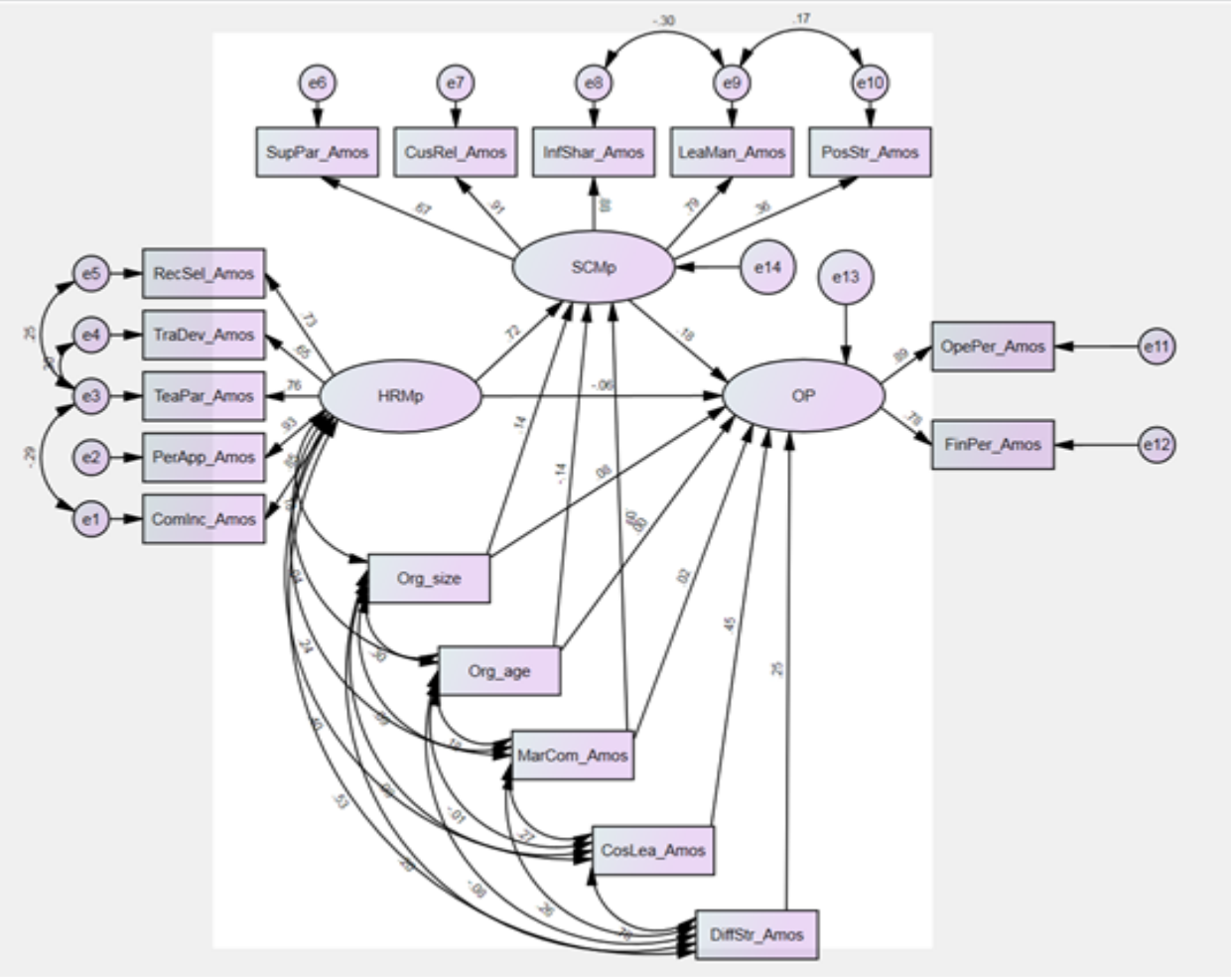
Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions: (Constant)	Org_size	Org_age	MarCom	HRMp	SCMp	CosLea	DiffStr	IntStr_Dummy_V
1	1	3.901	1.000	.00	.00	.00	.00					
	2	.044	9.412	.03	.01	.71	.30					
	3	.039	9.971	.00	.78	.27	.13					
	4	.015	15.900	.97	.21	.02	.56					
2	1	4.876	1.000	.00	.00	.00	.00	.00				
	2	.050	9.832	.01	.03	.69	.09	.08				
	3	.039	11.140	.00	.75	.20	.17	.00				
	4	.023	14.431	.03	.19	.04	.66	.39				
	5	.011	21.165	.96	.03	.06	.08	.53				

3	1	5.863	1.000	.00	.00	.00	.00	.00	.00			
	2	.056	10.253	.00	.04	.65	.03	.03	.01			
	3	.039	12.195	.00	.70	.14	.21	.00	.00			
	4	.026	15.103	.01	.22	.11	.70	.10	.02			
	5	.011	22.908	.51	.03	.04	.06	.45	.02			
	6	.005	35.586	.48	.01	.05	.00	.42	.95			
4	1	7.824	1.000	.00	.00	.00	.00	.00	.00	.00	.00	
	2	.068	10.754	.00	.06	.48	.00	.01	.00	.02	.01	
	3	.040	14.025	.00	.66	.16	.18	.00	.00	.00	.00	
	4	.027	17.005	.00	.15	.20	.78	.01	.00	.03	.01	
	5	.021	19.453	.01	.04	.01	.00	.24	.04	.18	.04	
	6	.011	26.863	.57	.03	.06	.04	.31	.03	.01	.01	
	7	.005	39.332	.06	.03	.01	.00	.00	.18	.60	.79	
	8	.004	41.700	.36	.04	.08	.00	.42	.75	.17	.14	
5	1	8.316	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.510	4.037	.00	.00	.00	.00	.00	.00	.00	.00	.95
	3	.066	11.227	.00	.05	.51	.00	.01	.00	.01	.01	.03
	4	.039	14.519	.00	.67	.14	.18	.00	.00	.00	.00	.01
	5	.027	17.544	.00	.15	.20	.77	.02	.00	.03	.01	.00
	6	.021	20.070	.01	.04	.01	.00	.24	.04	.18	.04	.00
	7	.011	27.739	.57	.02	.06	.04	.31	.03	.01	.01	.00
	8	.005	40.609	.06	.03	.01	.00	.00	.18	.60	.80	.00
	9	.004	42.992	.36	.03	.08	.00	.42	.75	.17	.14	.00

a. Dependent Variable: OP

5.9.3 Structural equation modeling (Proposed model – Final)



Model fit summary of the proposed model

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	60	204.604	93	.000	2.200
Saturated model	153	.000	0		
Independence model	17	1653.830	136	.000	12.161

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.055	.877	.797	.533
Saturated model	.000	1.000		
Independence model	.287	.288	.198	.256

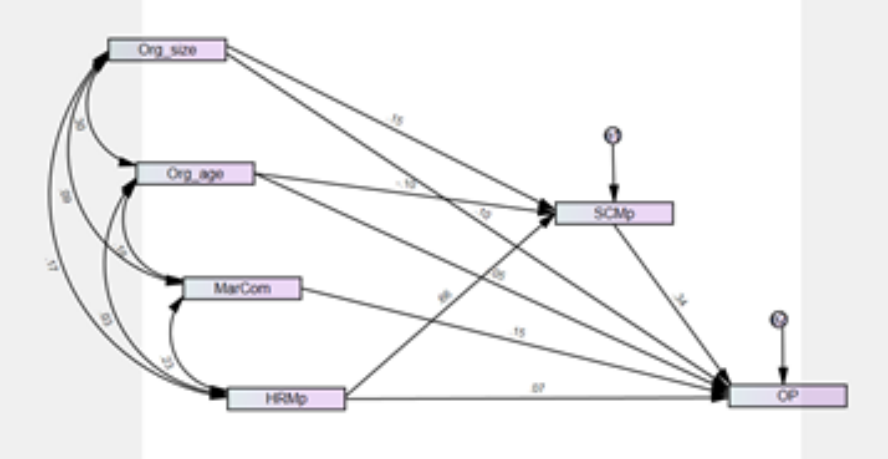
Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.876	.819	.928	.892	.926
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.088	.071	.104	.050
Independence model	.267	.256	.279	.000

5.9.4 Measurement of the mediation effect



Model fit summary of the mediation model

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	20	1.226	1	.268	1.226
Saturated model	21	.000	0		
Independence model	6	176.470	15	.000	11.765

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.012	.997	.945	.047
Saturated model	.000	1.000		
Independence model	.162	.720	.608	.514

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.993	.896	.999	.979	.999
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.038	.000	.220	.356
Independence model	.263	.229	.298	.000

5.9.4.1 Mediation analysis using PROCESS v3.4 developed by Andrew F. Hayes

Run MATRIX procedure:

```
***************** PROCESS Procedure for SPSS Version 3.4 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : OP
    X  : HRMp
    M  : SCMp

Covariates:
 Org_size Org_age  MarCom

Sample
Size:  157

**************************************************************************
OUTCOME VARIABLE:
 SCMp

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6984      .4878      .4993    36.1908     4.0000   152.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     3.8977      .4659     8.3663      .0000     2.9773     4.8182
HRMp          .6624      .0625    10.5940      .0000      .5389      .7860
Org_size      .4103      .1658     2.4750      .0144      .0828      .7378
Org_age      -.3623      .1965    -1.8439      .0671     -.7504      .0259
MarCom        .0714      .0652     1.0951      .2752     -.0574      .2003
```

```
Standardized coefficients
             coeff
HRMp          .6402
Org_size      .1527
Org_age      -.1138
MarCom        .0663

************************************************************************
OUTCOME VARIABLE:
 OP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4741      .2248      .2058     8.7582     5.0000   151.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    2.3953      .3614     6.6273      .0000     1.6812     3.1094
HRMp          .0365      .0529      .6888      .4920     -.0681      .1410
SCMp          .1767      .0521     3.3928      .0009      .0738      .2795
Org_size      .1354      .1085     1.2476      .2141     -.0790      .3498
Org_age      -.0833      .1275     -.6530      .5148     -.3352      .1687
MarCom        .0814      .0420     1.9365      .0547     -.0017      .1645

Standardized coefficients
             coeff
HRMp         .0677
SCMp          .3397
Org_size      .0969
Org_age      -.0503
MarCom        .1453

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 OP

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4071      .1657      .2200     7.5480     4.0000   152.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    3.0839      .3092     9.9724      .0000     2.4729     3.6948
HRMp          .1535      .0415     3.6978      .0003      .0715      .2355
Org_size      .2079      .1100     1.8893      .0608     -.0095      .4253
Org_age      -.1473      .1304    -1.1293      .2606     -.4049      .1104
MarCom        .0940      .0433     2.1717      .0314      .0085      .1796

Standardized coefficients
             coeff
HRMp         .2852
Org_size      .1488
Org_age      -.0889
MarCom        .1679
```

```
************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_ps
c_cs
      .1535      .0415     3.6978      .0003      .0715      .2355      .3028
.2852

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_ps
c'_cs
      .0365      .0529      .6888      .4920     -.0681      .1410      .0719
.0677

Indirect effect(s) of X on Y:
         Effect     BootSE   BootLLCI   BootULCI
SCMp      .1170      .0388      .0442      .1980

Partially standardized indirect effect(s) of X on Y:
         Effect     BootSE   BootLLCI   BootULCI
SCMp      .2309      .0745      .0899      .3866

Completely standardized indirect effect(s) of X on Y:
         Effect     BootSE   BootLLCI   BootULCI
SCMp      .2175      .0689      .0835      .3565

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

5.9.5 Measurement of the moderation effect

5.9.5.1 Cost leadership strategy – HRM practices (Model 6a$_1$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	HRMp, Org_age, Org_size, MarCom[c]	.	Enter

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.338[b]	.114	.072	.51483

a. CosLea_Dummy_V = CosLead

b. Predictors: (Constant), HRMp, Org_age, Org_size, MarCom

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.843	4	.711	2.682	.037[c]
	Residual	21.999	83	.265		
	Total	24.843	87			

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

c. Predictors: (Constant), HRMp, Org_age, Org_size, MarCom

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.120	.486		6.415	.000		
	Org_size	.179	.162	.116	1.105	.273	.969	1.032
	Org_age	-.077	.190	-.044	-.403	.688	.916	1.091
	MarCom	.098	.064	.166	1.542	.127	.920	1.087
	HRMp	.139	.059	.244	2.338	.022	.979	1.021

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Org_size	Org_age	MarCom	HRMp
1	1	4.879	1.000	.00	.00	.00	.00	.00
	2	.048	10.052	.01	.13	.80	.00	.06
	3	.037	11.459	.00	.62	.08	.27	.06
	4	.026	13.596	.01	.13	.08	.60	.38
	5	.010	22.491	.98	.12	.04	.12	.50

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

5.9.5.2 Non-cost leadership strategy – HRM practices (Model 6b$_1$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	HRMp, Org_age, MarCom, Org_size[c]	.	Enter

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511[b]	.261	.215	.41927

a. CosLea_Dummy_V = Non-CosLead

b. Predictors: (Constant), HRMp, Org_age, MarCom, Org_size

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.969	4	.992	5.645	.001[c]
	Residual	11.251	64	.176		
	Total	15.220	68			

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

c. Predictors: (Constant), HRMp, Org_age, MarCom, Org_size

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.081	.391		7.881	.000		
	Org_size	.259	.157	.208	1.646	.105	.726	1.378
	Org_age	-.262	.186	-.172	-1.411	.163	.776	1.288
	MarCom	.077	.060	.150	1.296	.200	.862	1.160
	HRMp	.175	.060	.351	2.925	.005	.804	1.243

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Org_size	Org_age	MarCom	HRMp
1	1	4.874	1.000	.00	.00	.00	.00	.00
	2	.061	8.956	.01	.10	.39	.13	.04
	3	.034	12.047	.00	.72	.48	.08	.01
	4	.020	15.649	.13	.17	.01	.79	.29
	5	.012	20.473	.86	.01	.12	.01	.65

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

Differences between cost leadership and non-cost leadership strategy

			CosLea		Non-CosLea		
			Estimate	p	Estimate	p	**z-score**
OP	<---	Org_size	0.179	0.258	0.259	0.089	**0.366**
OP	<---	HRMp	0.139	0.017	0.175	0.003	**0.44**
OP	<---	MarCom	0.098	0.115	0.077	0.181	**-0.247**
OP	<---	Org_age	-0.077	0.68	-0.262	0.145	**-0.716**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

5.9.5.3 Differentiation strategy – HRM practices (Model 7a$_1$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	HRMp, Org_size, MarCom, Org_age[c]	.	Enter

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.321[b]	.103	.061	.49387

a. DiffStr_Dummy_V = DiffStr

b. Predictors: (Constant), HRMp, Org_size, MarCom, Org_age

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.409	4	.602	2.469	.051[c]
	Residual	20.976	86	.244		
	Total	23.385	90			

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

c. Predictors: (Constant), HRMp, Org_size, MarCom, Org_age

Coefficients[a,b]

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.216	.458		7.021	.000		
	Org_size	.048	.150	.034	.320	.749	.921	1.086
	Org_age	.087	.177	.054	.491	.625	.864	1.158
	MarCom	.069	.061	.121	1.138	.258	.916	1.092
	HRMp	.147	.057	.267	2.555	.012	.953	1.050

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

			Condition	Variance Proportions				
Model	Dimension	Eigenvalue	Index	(Constant)	Org_size	Org_age	MarCom	HRMp
1	1	4.873	1.000	.00	.00	.00	.00	.00
	2	.054	9.486	.01	.00	.75	.01	.10
	3	.040	11.088	.00	.77	.03	.23	.01
	4	.024	14.189	.02	.17	.15	.67	.32
	5	.009	22.671	.97	.06	.07	.09	.57

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

5.9.5.4 Non-differentiation strategy – HRM practices (Model $7b_1$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	HRMp, Org_age, MarCom, Org_size[c]	.	Enter

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.593[b]	.351	.309	.42119

a. DiffStr_Dummy_V = Non-DiffStr

b. Predictors: (Constant), HRMp, Org_age, MarCom, Org_size

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.864	4	1.466	8.264	.000[c]
	Residual	10.821	61	.177		
	Total	16.686	65			

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

c. Predictors: (Constant), HRMp, Org_age, MarCom, Org_size

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.006	.396		7.583	.000		
	Org_size	.466	.159	.332	2.926	.005	.826	1.211
	Org_age	-.558	.192	-.322	-2.902	.005	.861	1.162
	MarCom	.100	.060	.184	1.672	.100	.881	1.135
	HRMp	.177	.060	.339	2.970	.004	.817	1.225

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Org_size	Org_age	MarCom	HRMp
1	1	4.882	1.000	.00	.00	.00	.00	.00
	2	.050	9.887	.01	.12	.41	.24	.03
	3	.035	11.821	.00	.74	.53	.03	.00
	4	.020	15.531	.07	.13	.02	.67	.49
	5	.013	19.562	.92	.01	.04	.06	.48

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

Differences between differentiation and non-differentiation strategy

			DiffStr		Non-DiffStr		
			Estimate	p	Estimate	p	z-score
OP	<---	Org_size	0.048	0.743	0.466	0.002	1.965**
OP	<---	HRMp	0.147	0.009	0.177	0.002	0.379
OP	<---	MarCom	0.069	0.245	0.1	0.084	0.37
OP	<---	Org_age	0.087	0.616	-0.558	0.003	-2.54**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

5.9.5.5 Integrated strategy – HRM practices (Model 8a$_1$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	HRMp, Org_age, Org_size, MarCom[c]	.	Enter

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.340[b]	.116	.063	.49663

a. IntStr_Dummy_V = IntStr

b. Predictors: (Constant), HRMp, Org_age, Org_size, MarCom

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.167	4	.542	2.196	.079[c]
	Residual	16.525	67	.247		
	Total	18.692	71			

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

c. Predictors: (Constant), HRMp, Org_age, Org_size, MarCom

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.148	.506		6.225	.000		
	Org_size	.159	.168	.111	.945	.348	.964	1.038
	Org_age	.065	.206	.039	.317	.752	.879	1.137
	MarCom	.068	.070	.119	.970	.336	.878	1.139
	HRMp	.136	.060	.262	2.244	.028	.971	1.030

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Org_size	Org_age	MarCom	HRMp
1	1	4.878	1.000	.00	.00	.00	.00	.00
	2	.050	9.905	.01	.13	.66	.01	.09
	3	.036	11.599	.01	.73	.05	.13	.15
	4	.026	13.807	.01	.04	.22	.76	.27
	5	.010	21.855	.98	.10	.07	.10	.49

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

5.9.5.6 Non-integrated strategy – HRM practices (Model $8b_1$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	HRMp, Org_age, MarCom, Org_size[c]	.	Enter

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.488[b]	.239	.201	.45028

a. IntStr_Dummy_V = Non-IntStr

b. Predictors: (Constant), HRMp, Org_age, MarCom, Org_size

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.083	4	1.271	6.267	.000[c]
	Residual	16.220	80	.203		
	Total	21.303	84			

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

c. Predictors: (Constant), HRMp, Org_age, MarCom, Org_size

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.049	.392		7.770	.000		
	Org_size	.280	.153	.200	1.832	.071	.794	1.259
	Org_age	-.354	.176	-.215	-2.010	.048	.834	1.200
	MarCom	.094	.057	.171	1.653	.102	.888	1.127
	HRMp	.178	.059	.321	3.021	.003	.843	1.186

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Org_size	Org_age	MarCom	HRMp
1	1	4.876	1.000	.00	.00	.00	.00	.00
	2	.058	9.150	.01	.08	.45	.16	.03
	3	.035	11.875	.00	.72	.49	.08	.00
	4	.020	15.615	.10	.19	.00	.73	.35
	5	.011	20.989	.89	.00	.05	.03	.61

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

Differences between integrated and non-integrated strategy

			IntStr		Non-IntStr		
			Estimate	p	Estimate	p	**z-score**
OP	<---	Org_size	0.159	0.331	0.28	0.061	**0.549**
OP	<---	HRMp	0.136	0.021	0.178	0.002	**0.52**
OP	<---	MarCom	0.068	0.318	0.094	0.09	**0.299**
OP	<---	Org_age	0.065	0.744	-0.354	0.04	**-1.588**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

5.9.5.7 Cost leadership strategy – HRM practices and SCM practices (Model 6a$_2$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	SCMp, Org_age, Org_size, MarCom, HRMp[c]	.	Enter

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.432[b]	.187	.137	.49631

a. CosLea_Dummy_V = CosLead

b. Predictors: (Constant), SCMp, Org_age, Org_size, MarCom, HRMp

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.644	5	.929	3.770	.004[c]
	Residual	20.199	82	.246		
	Total	24.843	87			

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

c. Predictors: (Constant), SCMp, Org_age, Org_size, MarCom, HRMp

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.039	.616		3.308	.001		
	Org_size	.075	.161	.049	.466	.642	.914	1.094
	Org_age	-.027	.184	-.016	-.148	.882	.907	1.102
	MarCom	.071	.062	.119	1.130	.262	.895	1.118
	HRMp	-.012	.080	-.021	-.149	.882	.502	1.991
	SCMp	.263	.097	.394	2.704	.008	.466	2.144

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	Org_size	Org_age	MarCom	HRMp	SCMp
1	1	5.870	1.000	.00	.00	.00	.00	.00	.00
	2	.052	10.655	.00	.04	.78	.01	.03	.01
	3	.038	12.447	.00	.72	.02	.19	.02	.00
	4	.028	14.552	.00	.11	.14	.69	.11	.01
	5	.010	24.057	.42	.11	.03	.11	.40	.02
	6	.003	44.781	.58	.02	.03	.01	.44	.97

a. CosLea_Dummy_V = CosLead

b. Dependent Variable: OP

5.9.5.8 Non-cost leadership strategy – HRM practices and SCM practices (Model $6b_2$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	SCMp, Org_age, MarCom, Org_size, HRMp[c]	.	Enter

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.556[b]	.310	.255	.40840

a. CosLea_Dummy_V = Non-CosLead

b. Predictors: (Constant), SCMp, Org_age, MarCom, Org_size, HRMp

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.712	5	.942	5.650	.000[c]
	Residual	10.508	63	.167		
	Total	15.220	68			

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

c. Predictors: (Constant), SCMp, Org_age, MarCom, Org_size, HRMp

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.613	.441		5.932	.000		
	Org_size	.208	.155	.166	1.337	.186	.708	1.413
	Org_age	-.185	.185	-.121	-1.002	.320	.746	1.340
	MarCom	.080	.058	.155	1.378	.173	.861	1.161
	HRMp	.073	.076	.146	.965	.338	.477	2.098
	SCMp	.126	.060	.309	2.110	.039	.510	1.962

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Org_size	Org_age	MarCom	HRMp	SCMp
1	1	5.856	1.000	.00	.00	.00	.00	.00	.00
	2	.067	9.324	.00	.09	.38	.05	.02	.01
	3	.035	12.997	.00	.60	.32	.20	.01	.01
	4	.024	15.661	.03	.30	.11	.68	.04	.06
	5	.012	22.438	.62	.01	.11	.01	.41	.00
	6	.006	31.337	.34	.01	.07	.06	.53	.92

a. CosLea_Dummy_V = Non-CosLead

b. Dependent Variable: OP

Differences between cost leadership and non-cost leadership strategy

			CosLea		**Non-CosLea**		
			Estimate	p	Estimate	p	**z-score**
SCMp	<---	Org_age	-0.108	0.585	-0.618	0.092	**-1.221**
SCMp	<---	Org_size	0.403	0.021	0.411	0.188	**0.021**
SCMp	<---	HRMp	0.584	0	0.801	0	**1.703***
OP	<---	Org_size	0.075	0.631	0.208	0.164	**0.614**
OP	<---	HRMp	-0.012	0.878	0.073	0.314	**0.799**
OP	<---	MarCom	0.071	0.238	0.08	0.152	**0.118**
OP	<---	Org_age	-0.027	0.878	-0.185	0.298	**-0.626**
OP	<---	SCMp	0.263	0.005	0.126	0.028	**-1.253**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

5.9.5.9 Differentiation strategy – HRM practices and SCM practices (Model 7a$_2$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	SCMp, Org_age, Org_size, MarCom, HRMp[c]	.	Enter

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.353[b]	.124	.073	.49083

a. DiffStr_Dummy_V = DiffStr

b. Predictors: (Constant), SCMp, Org_age, Org_size, MarCom, HRMp

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.907	5	.581	2.413	.043[c]
	Residual	20.478	85	.241		
	Total	23.385	90			

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

c. Predictors: (Constant), SCMp, Org_age, Org_size, MarCom, HRMp

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.643	.605		4.372	.000		
	Org_size	.017	.150	.012	.115	.909	.902	1.108
	Org_age	.121	.177	.075	.681	.498	.849	1.178
	MarCom	.054	.062	.095	.884	.379	.889	1.124
	HRMp	.070	.078	.128	.902	.369	.511	1.959
	SCMp	.132	.092	.210	1.438	.154	.485	2.062

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	Org_size	Org_age	MarCom	HRMp	SCMp
1	1	5.862	1.000	.00	.00	.00	.00	.00	.00
	2	.060	9.879	.00	.01	.66	.00	.04	.01
	3	.040	12.143	.00	.78	.05	.19	.00	.00
	4	.026	15.150	.00	.16	.20	.73	.09	.01
	5	.010	24.213	.39	.05	.05	.07	.47	.02
	6	.003	43.835	.60	.00	.04	.00	.40	.96

a. DiffStr_Dummy_V = DiffStr

b. Dependent Variable: OP

5.9.5.10 Non-differentiation strategy – HRM practices and SCM practices (Model 7b$_2$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	SCMp, Org_age, MarCom, Org_size, HRMp[c]	.	Enter

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.664[b]	.441	.394	.39444

a. DiffStr_Dummy_V = Non-DiffStr

b. Predictors: (Constant), SCMp, Org_age, MarCom, Org_size, HRMp

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.351	5	1.470	9.449	.000[c]
	Residual	9.335	60	.156		
	Total	16.686	65			

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

c. Predictors: (Constant), SCMp, Org_age, MarCom, Org_size, HRMp

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.353	.427		5.510	.000		
	Org_size	.346	.154	.247	2.247	.028	.773	1.293
	Org_age	-.430	.185	-.248	-2.327	.023	.818	1.223
	MarCom	.104	.056	.190	1.849	.069	.881	1.135
	HRMp	.031	.073	.060	.430	.669	.477	2.097
	SCMp	.183	.059	.423	3.091	.003	.498	2.009

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Org_size	Org_age	MarCom	HRMp	SCMp
1	1	5.867	1.000	.00	.00	.00	.00	.00	.00
	2	.053	10.507	.00	.10	.47	.12	.01	.01
	3	.036	12.735	.00	.59	.36	.14	.00	.01
	4	.025	15.345	.01	.27	.02	.64	.09	.06
	5	.013	21.409	.63	.01	.03	.04	.35	.00
	6	.006	31.517	.35	.03	.12	.06	.55	.91

a. DiffStr_Dummy_V = Non-DiffStr

b. Dependent Variable: OP

Differences between differentiation and non-differentiation strategy

			DiffStr		Non-DiffStr		
			Estimate	p	Estimate	p	**z-score**
SCMp	<---	Org_age	-0.176	0.376	-0.7	0.063	**-1.231**
SCMp	<---	Org_size	0.235	0.177	0.653	0.036	**1.17**
SCMp	<---	HRMp	0.598	0	0.789	0	**1.486**
OP	<---	Org_size	0.017	0.906	0.346	0.019	**1.581**
OP	<---	HRMp	0.07	0.357	0.031	0.653	**-0.375**
OP	<---	MarCom	0.054	0.356	0.104	0.054	**0.618**
OP	<---	Org_age	0.121	0.482	-0.43	0.015	**-2.233****
OP	<---	SCMp	0.132	0.134	0.183	0.001	**0.495**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

5.9.5.11 Integrated strategy – HRM practices and SCM practices (Model 8a$_2$)

Variables Entered/Removed[a,b]

Model	Variables Entered	Variables Removed	Method
1	SCMp, Org_age, Org_size, MarCom, CosLea, HRMp, DiffStr[c]	.	Enter

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.719[b]	.517	.464	.37563

a. IntStr_Dummy_V = IntStr

b. Predictors: (Constant), SCMp, Org_age, Org_size, MarCom, CosLea, HRMp, DiffStr

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.661	7	1.380	9.782	.000[c]
	Residual	9.030	64	.141		
	Total	18.692	71			

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

c. Predictors: (Constant), SCMp, Org_age, Org_size, MarCom, CosLea, HRMp, DiffStr

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.996	.529		3.771	.000		
	Org_size	.071	.132	.050	.538	.593	.890	1.124
	Org_age	.118	.157	.070	.754	.454	.873	1.145
	MarCom	.016	.055	.029	.299	.766	.814	1.228
	CosLea	.174	.093	.339	1.860	.067	.227	4.401
	DiffStr	.186	.097	.366	1.909	.061	.206	4.858
	HRMp	.023	.067	.044	.343	.733	.458	2.183
	SCMp	.006	.087	.010	.073	.942	.412	2.427

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

Collinearity Diagnostics [a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Org_size	Org_age	MarCom	CosLea	DiffStr	HRMp	SCMp
1	1	7.825	1.000	.00	.00	.00	.00	.00	.00	.00	.00
	2	.063	11.166	.00	.00	.50	.03	.01	.01	.01	.00
	3	.041	13.821	.00	.77	.06	.03	.02	.00	.00	.00
	4	.028	16.628	.00	.04	.18	.31	.05	.03	.09	.00
	5	.027	17.142	.00	.05	.18	.50	.02	.00	.14	.01
	6	.010	27.494	.43	.08	.07	.05	.01	.01	.29	.02
	7	.003	48.468	.01	.05	.00	.07	.89	.93	.07	.00
	8	.003	54.268	.56	.01	.00	.00	.00	.02	.41	.96

a. IntStr_Dummy_V = IntStr

b. Dependent Variable: OP

5.9.5.12 Non-integrated strategy – HRM practices and SCM practices (Model 8b$_2$)

Variables Entered/Removed [a,b]

Model	Variables Entered	Variables Removed	Method
1	SCMp, Org_age, MarCom, Org_size, CosLea, HRMp, DiffStr[c]	.	Enter

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

c. All requested variables entered.

Model Summary [a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.690[b]	.477	.429	.38051

a. IntStr_Dummy_V = Non-IntStr

b. Predictors: (Constant), SCMp, Org_age, MarCom, Org_size, CosLea, HRMp, DiffStr

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.155	7	1.451	10.019	.000[c]
	Residual	11.149	77	.145		
	Total	21.303	84			

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

c. Predictors: (Constant), SCMp, Org_age, MarCom, Org_size, CosLea, HRMp, DiffStr

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.991	.396		5.026	.000		
	Org_size	.165	.137	.119	1.205	.232	.703	1.423
	Org_age	-.166	.161	-.101	-1.034	.304	.712	1.404
	MarCom	.026	.050	.048	.522	.603	.807	1.239
	CosLea	.232	.065	.424	3.583	.001	.485	2.063
	DiffStr	.079	.077	.144	1.029	.307	.348	2.876
	HRMp	-.022	.069	-.040	-.324	.747	.448	2.233
	SCMp	.087	.055	.191	1.592	.115	.471	2.124

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Org_size	Org_age	MarCom	CosLea	DiffStr	HRMp	SCMp
1	1	7.827	1.000	.00	.00	.00	.00	.00	.00	.00	.00
	2	.075	10.218	.00	.08	.37	.02	.01	.01	.00	.00
	3	.036	14.721	.00	.54	.25	.21	.00	.00	.00	.00
	4	.025	17.760	.01	.26	.10	.71	.05	.00	.02	.01
	5	.015	22.882	.02	.02	.01	.00	.42	.03	.18	.09
	6	.011	26.698	.67	.00	.06	.01	.01	.01	.27	.01
	7	.006	35.607	.12	.01	.00	.05	.24	.46	.08	.49
	8	.005	39.578	.19	.09	.21	.00	.27	.49	.44	.39

a. IntStr_Dummy_V = Non-IntStr

b. Dependent Variable: OP

Differences between integrated and non-integrated strategy

			IntStr		Non-IntStr		
			Estimate	p	Estimate	p	**z-score**
SCMp	<---	Org_age	0.042	0.843	-0.734	0.017	**-2.078****
SCMp	<---	Org_size	0.318	0.078	0.536	0.045	**0.676**
SCMp	<---	HRMp	0.569	0	0.796	0	**1.943***
OP	<---	Org_size	0.071	0.573	0.165	0.211	**0.516**
OP	<---	HRMp	0.023	0.727	-0.022	0.748	**-0.473**
OP	<---	MarCom	0.016	0.753	0.026	0.586	**0.139**
OP	<---	Org_age	0.118	0.427	-0.166	0.284	**-1.323**
OP	<---	SCMp	0.006	0.936	0.087	0.085	**0.859**
OP	<---	CosLea	0.174	0.05	0.232	0	**0.543**
OP	<---	DiffStr	0.186	0.042	0.079	0.281	**-0.913**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10