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The Interactions of Business Environment, Generic Strategy, Operations Strategy, and Business Performance in the Lebanese Industries

By

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Dedication

To my parents, Youssef Ghazal and Khouloud Shamaa, and to my brother and sister; Husein Ghazal and Ihsan Ghazal, thank you for always being there and guiding me in my career with your moral support, sacrifices, and prayers throughout my study period at LAU and in my life. There will always be a special place for you within my heart.

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The Interactions of Business Environment, Generic Strategy, Operations Strategy, and Business Performance in the Lebanese Industries

Ziad Ghazal

Abstract

The purpose of the thesis is to investigate the interactions between business environment, generic strategy, operations strategy, and business performance in the Lebanese economy during the COVID-19 pandemic. The mediation effects of both generic and operations strategies between the business environment and business performance are examined. Drawing upon the theory of contingency, theory of strategic management, and resource-based view theory, a conceptual model was developed and empirically tested. The study was conducted by analyzing data collected via an online questionnaire from employees working in different Lebanese companies. Several statistical techniques were employed to conduct the data analysis phase of the study using the statistical software SPSS package and the add-in Hayes Process macro. The statistical techniques included reliability and validity analysis, factor analysis, correlation and regression analysis, hypothesis testing, and mediation analysis.

The results confirmed the significance of the direct effects at the aggregate level. In addition, analysis at the sub-dimensions level revealed mixed results regarding the significance of the proposed relationships. Moreover, partial mediation effects were detected as the generic strategy was found to partially mediate the relationships between business environment and operations strategy and between business environment and business performance.
This study can help investors, managers, and entrepreneurs observe the importance of both generic and operations strategies on increasing the firm's performance in the presence of a changing business environment as generic strategy was found to have a stronger influence on business performance. This study adds to the existing literature by proposing and testing a conceptual model linking business environment, generic strategy, operations strategy, and business performance.

Keywords: Business Environment, Generic Strategy, Operations Strategy, Business Performance, Lebanese Industries, COVID-19.

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List of Abbreviations

ENV – Business Environment

DYN – Environmental Dynamism

CMP – Environmental Complexity

HOS – Environmental Hostility

GEN – Generic Strategy

CLS – Cost Leadership Strategy

DIF – Differentiation Strategy

FOC – Focus Strategy

OPP – Operations Strategy

LCS – Low-Cost Strategy

QTY – Quality Strategy

DEL – Delivery Strategy

FLX – Flexibility Strategy

PER – Business Performance

FIN – Financial Performance

NFIN – Non-Financial Performance

Chapter 1

Introduction

1.1 Background of the study

Many external factors can make a huge impact on a firms' business performance such as uncertainty in the business environment, competition intensity, environmental complexity, globalization, and process and technology changes in the global markets (Rezaei & Zand, 2020). Similarly, according to Islami, Mustafa, and Latkovikj (2020), many firms have been facing many obstacles on how to make right decisions, and how to reach designated objectives, since international markets and the idea for the firm to expand globally increased. Many events throughout history had caused outbreaks in uncertainty in many different economies. For instance, the trade tension between the US and China, the news about Brexit, and conflicts in the Middle East are all factors that can make different firms in these countries uncertain about their decisions and goals. Nowadays, a massive increase in uncertainty levels was caused by the outburst of the coronavirus disease 2019, or the COVID-19, where it damaged the international activities in the whole economies for all the countries worldwide, which in turn disturbed the supply and demand trades between different countries. This pandemic caused high rates of unemployment, and declines in inflation (Leduc & Liu, 2020). Therefore, choosing the right strategy is crucial for a firm to have a competitive advantage, enhance its business performance, and to survive in the market. On another note, operations can play a relevant component in enhancing a country's economic

conditions such as through employment, exports, and Gross Domestic Product (GDP). For the firm to improve its manufacturing, operations strategy should be implemented that should best suit the firm against its competitors. This will allow firms to perform optimally. Since a firm operates in an external business environment, it should be ready to respond to its complex external forces (Haleem, 2020). Hence, implementing the appropriate operations strategy is vital to enhance the firms' level of efficiency, thus having a better competitive advantage over other firms locally and globally, and making the firm stronger facing challenges (Nassereddine & Wehbe, 2018). To be successful, operations strategy should integrate with both internal (structural and infrastructural decisions) and external (business strategy) environment in such a way that internal decisions support and complement external business environment (Beckman & Rosenfield, 2008; Lucianetti, Jabbour, Gunasekaran, & Latan, 2018). Also, according to Acquah and Amoako-Gyampah (2008), for an organization to achieve its objectives, operations strategy should be associated with the firms' generic strategy. Therefore, observing the different relationships is crucial between "business environment", "generic strategy", and "operations strategy" on "business performance". And to see if generic and operations strategies can mediate and give a significant effect between "Business Environment" and "Business Performance". However, few research papers have studied the relationship between these four variables.

Many different dimensions fall under these variables. In our paper, we will study environmental hostility, environmental dynamism, and environmental complexity under the business environment; cost leadership strategy, differentiation strategy, and focus strategy under generic strategy; low-cost strategy, delivery strategy, flexibility strategy, and quality strategy under operations strategy; and financial performance, and non-

financial performance under the business performance.

Also, there exists a theoretical foundation for the relationship between these four variables. This research integrates theory of contingency, theory of strategic management, and resource-based view theory. Business environment will be included, since many researchers found this variable relevant in the study of research strategy (Porter, 1980).

Moreover, this study will cover several gaps in the prior researchers. For instance, this paper will study the interactions of business environment, generic strategy, operations strategy, and business performance under the effect of COVID-19. Hence, we will observe how decision making will be affected by different employees. Second, this paper will add environmental hostility and environmental complexity under the business environment; and focus strategy under the generic strategy. These domains are not included in many research papers, and they are not studied in the presence of these four variables. Third, the current study considers both financial and non-financial performance of firms since non-financial performance remain unresolved in prior studies (Ho, Ahmad, & Ramayah, 2016). Fourth, since many companies face different uncertainty levels, competitive priorities as a source of competitive advantage do not hold true for every firm due to their specific business environment and challenges, for the reason the current study investigates the relationship further to enhance our understanding of the relationship (Sum, Shih-Ju Kow, & Chen, 2004). Moreover, few studies have studied the relationship between these four variables.

1.2 Context of Research

In our research, the variables are going to be studied in the Lebanese economy.

1.3 Research Population

Our study will include different Lebanese citizens who graduated, are employed, and work in different industries in Lebanon. Lebanon is an emerging country. We believe that it would be more flexible to collect data in this country, and it would be interesting to observe the results in this country because there are no studies that show the effect of these variables in this country.

1.4 Statement of the Research Problem

Literature confirms significant relationship between our four variables which are business environment, generic strategy, operations strategy, and business performance. However, the impact of these variables on financial and non-financial performance dimensions has not been given adequate attention (Haleem, 2020). First, there are not many papers that studied the impact of these variables in Lebanon. Second, no research had studied the relationship of these four variables in the presence of the COVID-19. Third, competitive dimensions do not appeal to each industry and geographical area (Boon-itt, 2009). They tend to change between countries and businesses (Beckman & Rosenfield, 2008) as well as evolve over time (Sum, Shih-Ju Know, & Chen, 2004). Fourth, many factors could change the relationship between our variables such as the size and type of the firm, sources of information, stages of development, and

characteristics of planning (Thürer, Godinho Filho, Stevenson, & Fredendall, 2014). Fifth, many papers that studied the relationship between our four variables did not include environmental hostility and environmental complexity under the business environment; and focus strategy under the generic strategy. Sixth, we believe that this model can help investors and entrepreneurs observe how generic and operations strategies can affect the overall business performance in the different Lebanese industries while the changing business environment is present.

Hence, due to the COVID-19 that hit the whole world's economy, it would be interesting to observe how it affected the relationship between our four variables in Lebanon. These are the reasons that intrigued us to investigate the relationship further in the Lebanese Economy. The current study integrates business environment, generic strategy, operations strategy, and business performance in a conceptual framework.

1.5 Research Objective

The main objectives for our study are the following:

1- We can analyze from the above discussion that we are going to see the interactions of business environment (environmental dynamism, environmental complexity, environmental hostility), generic strategy (cost leadership strategy, differentiation strategy, and focus strategy), operations strategy (low-cost strategy, quality strategy, delivery strategy, and flexibility strategy) and business performance (financial and non-financial performance) in the presence of the COVID-19 in the Lebanese economy.

2- Also, we will observe if generic and operations strategies can mediate and give a significant effect between business environment and business performance in the presence of the COVID-19.

1.6 Research Questions

Based on the research objective, the following questions have been framed.

RQ1 Does business environment has a significant effect on business performance, generic strategy, and operations strategy?

RQ2 Does generic strategy has a significant effect on operations strategy, and can both generic and operations strategies have a significant effect on business performance?

RQ3 Do generic strategy mediate the relationship between business environment and operations strategy, and between business environment and business performance, and can operations strategy mediate the relationship between business environment and business performance, and between generic strategy and business performance?

1.7 Motivation of the Study

Primarily, the researcher got motivated to conduct the study as the researcher wanted to add to the literature review and observe the different effects of business environment, generic strategy, operations strategy, and business performance in the Lebanese economy under the presence of the COVID-19. In addition, it would be interesting to observe how decisions by employees under the pressure of the COVID-19 are taken. For this reason, the research on generic and operations strategies is conducted to observe

their effects of the business performance in the existence of the business environment in the Lebanese economy. Also, the urge for enlightening investors and entrepreneurs on how the overall Lebanese industries utilize generic and operations strategies under the presence of business environment motivated us to see how these strategies can help increase the level of business performance. In addition, the researcher ‘s background qualification, and special interest in strategic management motivated the researcher to conduct the study.

1.8 Scope of the Study

From theoretical extent, the research is confined to the interaction among these four variables which are the business environment, generic strategy, operations strategy, and business performance. The study will be conducted on the different Lebanese industries in Lebanon, where we will conduct our data on Lebanese citizens who graduated and currently working in different companies.

1.9 Significance of the Study

Unlike other studies, this paper will study the relationship between the business environment, generic strategy, operations strategy, and business performance under the presence of the COVID-19. In addition, this paper utilized a performance concept that include both financial and non-financial performance which could assist managers to better analyze the predictors of these dimensions and to strike a balance accordingly. The study also supports the stance of contingency theory, theory of strategic management, and the resource-based view theory.

Overall, the research findings will deliver stronger and better awareness of the mutual interactions among the business environment, generic strategy, operations strategy, and business performance. Hence, the research would support employees implement better decisions on formulating, implementing, and evaluating strategic tactics that would help them outcompete especially in the presence of the COVID-19.

Hence, the relationship and the effect of these variables can show managers and entrepreneurs an idea on how generic and operations strategies are utilized in the different Lebanese industries, and how they affect the level of the firm's performance under the pressure of uncertain events such as the COVID-19.

1.10 Plan of the Study

The plan of study consisted of reviewing literature, designing research methodology, and analyzing the data through SPSS. Review of literature helped us find out the gap in the research, exploring relevant theories and contingent factors, and developing conceptual framework. Subject to the analysis of literature, research methodology was designed to attain the objectives of the research. Hence, methodology included conducting random sampling, developing online questionnaire, and collecting data. Finally, data that was gathered was examined with Statistical Package for Social Science (SPSS). Reliability, factor Analysis, correlation, and process for mediation were carried out to test the hypothesis.

1.11 Outline of the Study

This study is composed of six chapters. Current chapter outline the introduction of the

topic along with its justification. The chapter also outlines main research problem, objectives, questions, and significance of the research. After introduction, the next chapter number two reviews extant literature on definition of constructs namely business environment, generic strategy, operations strategy, and business performance. Different dimensions of constructs and empirical research findings are reviewed. Next, relevant theoretical underpinning of the research, that is, theory of contingency, theory of strategic management, and the resource-based view theory has been discussed. Chapter number three encompassed choosing the right research methodology, developing theoretical framework, and developing relevant hypothesis for testing. Further, it dealt with the development of survey instrument and discussing statistical tools for analyzing the collected data. In chapter number four, the collected data is analyzed with statistical analysis through SPSS. Interpretation, discussion, and relating the findings of the current study with prior research works are reported in Chapter number five. Finally, chapter number six document discussions and conclusions based on the research findings, limitation of the research, and some direction for future research.

Chapter 2

Literature Review

2.1 Introduction

This chapter encompasses revising three theoretical foundations of the research that contains the theory of contingency, the theory of strategic management, and resource-based view theory. This is followed by reviewing definitions and literature on its core factors, that is, business environment characteristics, generic strategy, operations strategy, and business performance. The literature on these core factors will cover not only the empirical findings of prior research but the different aspects, dimensions, types, and relevant theories as well. Further, the conceptual framework was discussed for this study. Moreover, framework model and research gaps were highlighted and justified the current study. Finally, the chapter presented the hypotheses for testing and how they were connected to certain variables.

2.2 Theoretical Framework

The theoretical framework was defined by Khan (2010) as a plan for the research approach that should be presented before the literature review. Also, Ocholla and Le Roux (2010) observed how this section formulated the basis for a research where it helped readers increase their knowledge on the interrelationship among the studied variables, their complications, and between the theorized relationship.

In this research paper, we will focus on the following theories: theory of contingency, the theory of strategic management, and resource-based view theory. Resource-based view (RBV) theory can help explain the relationship between generic strategy and firm's business performance. The theory of strategic management draws attention to the selection of appropriate generic strategy (cost leadership strategy, differentiation strategy, focus strategy) that commensurate with the firm 's resources and business environment. While the contingency theory might help us understand the interactions of business environment and business performance in the existence of a mediator such as generic or operations strategies.

2.2.1 Theory of Contingency

Contingency theory is established by the interactions between business environment and management practices, where these elements had a significant effect on the business outcome. (Doh, Park, & Kim, 2017). A contingency is a situation where a certain variable can moderate the relationship between business performance with other domains such as business environment or other organizational elements (Miner, 2015). Being able to select the strategy that best suits its business environment is what makes a firm successful (Pertusa-Ortega, Molina-Azorín, & Claver-Cortés, 2010).

Some studies showed that one of the main elements that affected strategy was the business environment (Porter, 1980). Business environment was included in many studies under contingency theory (e.g., Badri, Davis, & Davis, 2000; Swamidass & Newell, 1987; Ward & Duray, 2000). Also, business environment was included in many papers that studied the relationship between operations strategy with business

performance (e.g., Badri, Davis, & Davis, 2000; Nandakumar, Ghobadian, & O'Regan, 2011; Ellitan, 2017). However, the business environment effect as a contingent element was unsuccessful in some papers (Skinner, 1969; Ward & Duray, 2000). The competitive intensity and the level of uncertainty and environmental dynamism in the business environment had tremendously increased, especially nowadays. Hence, as the firm adjust to its business environment and its surroundings, the level of survival and prosperity will improve (Chi, 2010).

2.2.2 Theory of Strategic Management

According to Haleem (2020), the two main strategies that were most widely used in the strategy literature on the strategic direction of a firm were Miles and Snow (1978) typology and Porter (1980) generic strategy. In our research study, we will focus on Porter's generic strategy.

The three strategic dimensions that fall under generic strategy are cost leadership strategy, differentiation strategy, and focus strategy. They can help a firm obtain, build, protect, and sustain its competitive advantage according to porter (1980). Firms that utilize cost leadership strategy focus on low costs by achieving both scale and scope economies. Firms that choose a differentiation strategy provide customers with unique products and services by charging premium prices (Ibrahim, 1993). Finally, a firm utilizes focus strategy when it focuses on a certain product, service, market, or customer group, where the firm builds a competitive advantage in these specific areas avoiding highly competitive intensity with strong rivals. The most used strategies by successful small firms are niche and differentiation strategy according to Ibrahim (1993).

According to Porter (1980), utilizing cost leadership and differentiation strategies, which is known as combination strategy, can help a firm achieve a competitive advantage, however, this method might be risky, and might make a firm be trapped in the middle, and fail to have a competitive advantage especially for small firms (Wood, Gilbreath, Rutherford, & O 'Boyle, 2014).

2.2.3 Resource-Based View Theory

Seiznick (1957) and Penrose (1959) are the founders of this theory. They focus on how the usage of a firm's resources is relevant to optimize firm's business performance. The usage of available resources and capabilities to create businesses by entrepreneurs defines the resourse-based view theory (Wekesa, 2015). Resources are an essential element to create a product and to build performance (Baraza, 2017). According to Barney (1991), the focus of this theory is to make the firm view itself as an organization that is made up of multiple resources or properties to generate value and have advantage over rivals. If the firm obtained tangible or intangible properties that are unique and hard to mimic, the firm would accomplish better growth and success as stated in this theory. (Barley, 2007).

On the other hand, many researchers believed that the resource-based view theory has many limitations. For instance, this theory ignores the obstacles to dynamic and management (Hedman & Kalling, 2003).

To be better than its rivals, a company must utilize unique capabilities and resources (Newbert, 2008). According to Newbert (2008), if these properties are distinctive, a firm can accomplish better results in the long run over its rivals.

Therefore, the theories that are listed above are crucial for our study and provide a foundation and base for our research study.

2.3 Constructs of the study framework

The study has four main constructs namely business environment, generic strategy, operations strategy, and business performance. First, we will define each of the following terms and state what was observed in the literature. We will later observe the interactions between these variables. Each of these constructs is reviewed as follows.

2.4 Defining Variables

In this section, we are going to define the four variables with their dimensions for the research study. These variables are the business environment, generic strategy, operations strategy, and business performance.

2.4.1 Business Environment

Many studies highlighted the relevancy of "business environment". Both management and manufacturing studies observed how the business environment was a relevant element in affecting other variables (e.g., Skinner, 1969; Swamidass & Newell, 1987; Ward & Duray, 2000).

Business environment was defined differently via researchers since it is a multidimensional concept (Anand & Ward, 2004). Business environment was recognized as an important element in decision making for an organization, where both

physical and social factors play a major role inside the environment (Duncan, 1972). Also, management cannot control the business environment in the short run, where it consists of opportunities and threats that target an organization (Dess & Bears, 1972). Changes that occur suddenly, unexpected results for change initiators and initiators that are experiencing change occur because of the interconnections that happen between organizations (Pfeffer & Salancik, 1978).

Managing environmental dynamism is very important to adapt to the business environment (Crozier, 1964). Also, an organization should adapt to its business environment to survive in a changing environment (Duncan, 1972).

2.4.1.1 Business Environmental Forces

The business environment can affect a firm's decision-making process internally and externally (Duncan, 1972). All the factors that affect an organization from the inside are called internal factors, such as the staff, employees, and organizational levels. An internal analysis is relevant to help an organization know its strength and weakness and to identify its resources (Hill & Jones, 1995).

On the other hand, the components that affect the company from the outside are called external factors, such as customers, suppliers, competitors, and technological factors (Roth & Van Der Velde, 1991).

Information, communication, production, innovation, and competition intensity are all factors that made the level of uncertainty increase in the environment (Chi, Kilduff, & Gargeya, 2009). Also, there is a difference between risk and uncertainty. Risk is where

the probability of each outcome could be assigned, while uncertainty is where the probability of each outcome is unknown (Duncan, 1972).

2.4.1.2 Business Environment Dimensions

Different dimensions and conceptual frameworks were utilized by researchers in their study on the business environment (Akgul, Gozlu, & Tatoglu, 2015; Aldrich, 1979; Chi, 2015; Dess & Beard, 1984; Duncan, 1972; Sainidis & Robson, 2016).

The three main scopes of business environment are environmental dynamism, environmental complexity, and environmental hostility according to Dess and Beard (1984), and Aldrich (1979).

In addition, other business environment dimensions exist such as political, economic, societal, and legal factors (Krajewski & Ritzman, 2001). Also, government policies and political philosophies of the foreign country are environmental factors.

It is important to note that government regulations play an important factor in business performance because if regulations change, this affects operations strategy (Badri, Davis, & Davis, 2000). However, the relationship between regulations and business performance is not widely studied by researchers especially from an operations management perspective (Badri, Davis, & Davis, 2000).

Since the business environment has many different dimensions, this makes it a multidimensional concept. For our study, we are going to only tackle environmental dynamism, environmental complexity, and environmental hostility. Below, we are going to define and understand better the three dimensions separately.

2.4.1.2.1 Environmental Dynamism

Whenever there are turbulence and confusion in products, technologies, and demand, a dynamic environment situation occur (Dess & Davis, 1984).

Haleem (2020) stated that environmental dynamism refers to how speedily the change in business environment can be forecasted that emerges from such factors as technology uncertainty, customer uncertainty, and competitive uncertainty.

Environmental dynamism is one of the most relevant business environment dimensions where it should be monitored regularly since change always occurs unpredictably (Zand & Rezaei, 2020).

Volatility (turbulence) and unpredictable rate (stable or unstable) are the factors that measure the level of uncertainty in the business environment (Ward & Duray, 2000). Environmental dynamism can make decision making hard for organizations (Milliken, 1987). Therefore, companies must prepare different strategies to confront the dynamic environment such as buffering, collusion, long-term contracts, and vertical integration to create a more predictable environment (Haleem, 2020). Slack resources and flexibility (Anand & Ward, 2004) are tools that might be utilized by a firm to confront environmental dynamism.

2.4.1.2.2 Environmental Complexity

Environmental complexity means how much a firm is knowledgeable about products, customers, and technology (Haleem, 2020). Also, environmental complexity is defined

by the degree to which a market is homogeneous or heterogeneous and the extent of concentration or dispersion (Ward & Duray, 2000). In a complex environment, uncertainty levels and information handling are high which makes the manager's work difficult (Duncan, 1972). Organization in terms of operations and administrative control are affected by complexity and diversity of environment, where both are affected by an important factor which is expansion (Haleem, 2020).

2.4.1.2.3 Environmental Hostility

A business environment that contains competitive factors such as competition intensity and the presence of customers and suppliers buying power, and where it allows growth and stability for an organization in such circumstances is called environmental munificence (Aldrich, 1979). Environmental munificence is the reverse of environmental hostility; hence, environmental munificence can be measured by the opposite scale of environmental hostility (Ward, Duray, Leong, & Sum, 1995). Environmental munificence makes a comparison between environmental capacity and market growth (Ward & Duray, 2000). Slack resources are pursued in a munificence environment (Cyert & March, 1963). Protection against shortage, organizational cooperation, capturing innovational sources, and providing equipment to solve issues are all conditions that can be provided by the slack resources (Chakravarthy, 1982).

2.4.2 Generic Strategy

A strategy is a process of combining both planning and forecasting on a targeted or

specific outcome to achieve the required goals and missions for a firm (Baulcomb, 2003). The people who are responsible to choose a firm's strategy, who take risks, and who create new and different methods to provide their firm with a competitive advantage over other companies are seen to be dreamers and creators (Bunker & Wakefield, 2006).

Many researchers analyzed and classified generic strategy differently, each having their strengths and weaknesses. Porter (1980) developed three different dimensions for generic strategy which are differentiation strategy, cost leadership strategy, and focus strategy.

Many reasons guided us for choosing Porter's generic strategy. For instance, the generic strategy's dimensions are related to business performance, are used excessively in practice, and are widely utilized in different industries and companies (Baraza, 2017). Hence, utilizing one of Porter's generic strategy can help a firm outperform its competitors in the market.

Porter (1980) highlighted the importance for creating or adding value to customers which in turn can help the firm better observe its product-market decisions. The uniqueness in adding this value to the organization and utilizing one of Porter's generic strategy dimensions can make a firm profitable even in the presence of intense competition in the long run (Porter, 1980). However, firms utilizing both cost leadership and differentiation strategies while not having enough resources to meet both strategies will have poor performance and will be stuck in the middle.

Therefore, we will observe each type of Porter's generic strategy separately.

2.4.2.1 Cost Leadership Strategy

The main objective in utilizing the cost leadership strategy is to maintain a low-cost base and have a large market share to be effective (Baraza, 2017). Gaining competitive advantage by utilizing the cost leadership strategy is through producing and distributing goods at lower prices compared with the firm's competitors (Porter, 1980). Firms can reduce their costs in price control markets through automation, flexibility, and improved production (Haleem, 2020). On another note, an organization might face a risk of depletion of resources and might face bankruptcy if the firm decreases prices without reducing operating costs, especially in a highly intensive competition (Woodruff, 2007). One benefit in utilizing cost leadership strategy is intensifying investments, which can lead to enhancing performance levels (Baraza, 2017). Even though this strategy requires a firm to decrease or beat its competitors' prices, it still increases the possibility of making profits (Li & Li, 2008), since providing customers with lower costs compared to competitors ultimately results in high sales (Baraza, 2017).

Also, cost advantages, which can be achieved by cost reductions from different activities, can help a firm attain high average return and command prices (Atikiya, 2015). In addition, cost leadership strategy is used when an item is distributed to customers at the most competitive low price (Li & Li, 2008). Note that a firm can be a cost leader while its products might be high priced. However, a company might lose vision and their goal while adopting the cost leadership strategy if the company only focused on

To achieve sustainable competitive advantage while using cost leadership strategy, a

company must set its item prices below its rivals (Baraza, 2017).

2.4.2.2 Differentiation Strategy

Unlike what we have observed in cost leadership strategy where we focused on lowering cost, in the differentiation strategy, our focus is to create value through uniqueness (Atikiya, 2015).

Differentiation strategy is defined as "an integrated set of actions taken to produce goods and services – at an acceptable cost – that customers perceive as being different in ways that are important to them". It occurs when a firm can offer its customers a product or service that is unique and valuable (Atikiya, 2015). Factors such as technology, brand, positioning, design, or innovation can help explain differentiation strategy (Porter, 1980). Firms that offer strong individualized products, provide unique products or services, and work to be well-known and famous around its rivals usually use the differentiation strategy (Boyne, 2001). In a differentiation strategy, a firm should rely on creative items and a distinguished brand image (Li & Li, 2008).

Atikiya (2015) state that while the competitors will mimic the firm's last differentiation move, an innovative firm will always be one step ahead of its rivals and will be working on its next move.

2.4.2.3 Focus Strategy

Focus strategy is, instead of engaging in the whole market, the firm target specific market segments or a specific group of customers through cost leadership and or

differentiation strategies (Porter, 1980). Market segmentation and specialization are the main factors for a focus strategy where it helps the firm gain a competitive advantage. Focusing on a certain group of people or items can be selected by the firm according to its plan and goal. Focus is usually located in unattractive markets, overlooked by competitors, and in niche markets where there is a growing market share (Atikiya, 2015).

Many competitive advantages can result from utilizing focus strategy such as customer loyalty, which makes it hard for the firm's competitors to directly direct these customers, and high levels of return by targeting this specific segment (Hsieh and Chen, 2011).

If the targeted segment is small, or the specific customer group decreases, this might affect the focus strategy negatively. Also, it focuses on a specific sample of customers or a geographical area, while the other strategies try to target the greatest number of customers.

Some researchers argue that a firm cannot succeed by utilizing only one strategy. The business environment nowadays is always changing, dynamic, and uncertain. Hence strategies should always be constantly updated (Atikiya, 2015).

2.4.3 Operations Strategy

Skinner (1969) is the founder of the operations strategy. Operations' definition might differ between researchers since operations strategy is relatively a new field of study (Swamidass & Newell, 1987). Many researchers believed that we have four dimensions for operations strategy which are low-cost strategy, quality strategy, delivery strategy, and flexibility strategy (Ward, Bickford, & Leong, 1996).

On another note, operations strategy is viewed to be very close to the generic strategy (Chi, Kilduff, & Gargeya, 2009). Similarly, the marketing mix (counterpart of product, place, and price are quality strategy, delivery strategy, and low-cost strategy), and the operations strategy dimensions are viewed to be very close.

2.4.3.1 Low-Cost Strategy

The ability to provide customers with a product/service that is priced lower than the firm's rivals is called cost priority (Stonebraker & Leong, 1994). Reducing production cost, enhancing productivity, utilizing maximum capacity, and lowering inventories are all crucial factors to achieve low-cost strategy (Ward et al., 1995). Also, cutting on expenses or reducing cost by bringing in efficiencies are important measures to be taken while utilizing the low-cost strategy (Boon-itt, 2009).

Managing and controlling the low-cost strategy is crucial especially in an intense competition (Ward et al., 1995). Increase in the buyers' power, sales, and revenues can be obtained by utilizing the operations strategy (Slack, 1994). However, according to Ward et al (1995), low-cost strategy is not used widely by firms. Decrease in the marginal profits, and weak technology are some challenges that might face firms that utilize manufacturing strategy (Slack, 1994).

2.4.3.2 Quality Strategy

The most important method to compete better than rivals is through utilizing quality strategy (Wood, Gilbreath, Rutherford, &O'Boyle 2014). Meeting customers'

requirements and needs define quality strategy (Stonebraker & Leong, 1994). Quality strategy is the service received relative to customers' predictions, from a customers' assessment view. The product/service quality must meet or exceed customers' expectations for the firm to succeed (Koufteros, Vonderembse, & Doll, 2002b). Crosby (1979) observed that the advantages that can result from using the quality strategy are decreasing costs and removing wastes. In fact, quality strategy can have many dimensions that each can allow the firm to achieve competitive advantages like reliabilities and serviceability (Garvin, 1987). Also, the design, production, distribution, marketing, and service functions of a firm are other dimensions of quality strategy (Ward & Duray, 2000).

2.4.3.3 Delivery Strategy

According to Boon-itt (2009), one of the top strategies that can help a firm outperform its rivals is through the delivery strategy. The ability to provide customers with their needs swiftly is called the delivery strategy (Ward & Duray, 2000). If the firm can deliver its product/service fast or at an expected or even exceed customers' expectation for the time delivery of the product without affecting the quality can provide the firm competitive advantage over its rivals (Beesley, 1995).

Many researchers viewed delivery strategy differently. Ward et al (1995) believed that availability, reliability, speed, and conveniences defined delivery strategy. Noble (1997) considered that speed/quick, and reliable deliveries were the two main dimensions for delivery strategy.

2.4.3.4 Flexibility Strategy

Many researchers believed that utilizing the flexibility strategy could provide firms with a competitive advantage (Dreyer & Grønhaug, 2004). The ability to convert between products and parts immediately defines flexibility strategy according to Hall (1983). Managing environmental dynamism and meeting or exceeding customers' expectations could be benefits that a firm can achieve utilizing this strategy (Nahm, Vonderembse & Lim, 2003). For instance, the skill to switch job priorities and to adjust machine assignments were some benefits of using flexibility strategy (Gerwin, 1993b).

However, flexibility strategy might confront some issues. Sometimes some firms do not properly comprehend the meaning of flexibility (Evans, 1991). Also, Aranda (2003) believed that flexibility strategy lacked empirical testing in the strategic management literature.

Hence, market, competitors, technology, and regulatory agencies are some factors that can cause the business environment to be uncertain and utilizing flexibility strategy can help a firm hedge against these abnormal variables (Duncan, 1972).

2.4.4 Business Performance

A firm's efficiency and effectiveness are the main measures for the firm's performance (Venkatraman & Ramanujam, 1986). Business performance is a measure that helps firms realize favorable outcomes and higher returns to see where it stands compared to other competitors (Memon & Tahir, 2012). Business performance contains many

dimensions that make it difficult to define and measure (Keats & Hitt, 1985). Many dimensions fall under performance such as operational performance (Wooldridge & Floyd, 1990), financial performance, nonfinancial performance, innovation performance, etc. This paper will mainly focus on financial and non-financial performance.

Many factors can affect the level of performance such as business environment, generic strategy, operations strategy, supply chain integration, and innovation strategy.

Financial and non-financial performance are methods that can be used to measure business performance (Kaplan & Norton, 2001). Kennerley and Neely (2003a) believed that both financial and non-financial performance should be measured without neglecting any element because they complete each other in some manner. According to Haleem (2020), the factors that do not directly affect financial performance are called non-financial performance (employee morale, motivation, commitment, retention, business process efficiency, customer retention and satisfaction, and product quality).

ROE, Sales growth, Market Share, and Profit form the dimensions of financial performance. Also, these dimensions can be classified into sub-categories such as stock-holder satisfaction measure (ROE, EPS), operational performance measures (ROS, Gross Operating Profit), accounting measures (ROE, ROS), and market-based measures (Haleem, 2020). Profitability (ROI, and ROS) and market performance (share price, dividend yield ratio) are used to measure business performance (Haleem, 2020).

In summary, researchers developed different dimensions for business environment, generic strategy, operations strategy, and business performance.

Our questionnaire, financial and non-financial performance are going to be studied under business performance. Next, we will observe how these variables interact with each other according to previous papers. And we will observe how each variable affects

business performance levels.

2.5 Variables Interactions

Many research papers showed that there was an interaction between our four variables: business environment, generic strategy, operations strategy, and business performance. Also, many studies established many models to draw the relationship between at least two of these four variables. Below, we are going to observe from other research studies the direct and indirect relationship between the above variables.

2.5.1 Direct Effect

2.5.1.1 Business Environment and Business Performance

Some papers showed that the business environmental dimensions (environmental dynamism, environmental complexity, environmental hostility) could be both significant and insignificant with business performance.

For instance, Zand and Rezaei (2020) confirmed that environmental dynamism had a positive effect on business performance. According to Prajogo (2016), he observed that there was positive interaction between environmental dynamism and business performance. Also, Gorondutse and Hilman (2017) noticed a positive relationship between environmental hostility and business performance. Similarly, Jogaratnam, Olsen, and Tse (1999) remarked a significant relationship between environmental hostility and business performance. According to Bausch, Rosenbusch, and Rauch (2013), environmental hostility, environmental dynamism, and environmental

complexity indirectly affected business performance through entrepreneurial orientation. However, Eker and Eker (2019) detected an insignificant relationship between environmental dynamism and business performance. Also, Permana, Laksmana, and Ellitan (2017) stated a null effect between environmental dynamism and business performance of SMEs in Surabaya. Similarly, Low and Cheng (2006) witnessed that the business environment had a negative effect on business performance in Taiwan and China.

In our research study, our null hypothesis will state that the business environment (environmental dynamism, environmental complexity, environmental hostility) would have a significant effect on business performance.

2.5.1.2 Business Environment and Generic Strategy

Some papers showed that the business environmental dimensions (environmental dynamism, environmental hostility, environmental complexity) could be significant, insignificant, or a mixed relationship could occur with generic strategy.

According to Haleem (2020), he observed that there was a significant relationship between dynamic, hostile, and complex environment on strategic planning.

However, Ellitan L. (2017) noticed that environmental dynamism did not influence both cost leadership and differentiation strategies. Similarly, Ellitan, L. (2017) remarked a negative relationship between environmental dynamism and generic strategy.

Others believe that there might be a mix relationship between these two variables. According to Ward, Bickford, and Leong (1996), they believed that there might be a significant effect between business environment and generic strategy (differentiation,

and cost leadership strategies). Ward and Duray (2000) detected that environmental dynamism had a direct relationship with a differentiation strategy. However, it did not have a significant relationship with a cost leadership strategy. The authors stated that the differentiation strategy is more effective in a dynamic environment, more than the cost leadership strategy.

In our study, our null hypothesis will state that the business environment (environmental dynamism, environmental hostility, environmental complexity) will have a significant relationship with generic strategy.

2.5.1.3 Business Environment and Operations Strategy

Many papers showed a significant, insignificant, and a mix relationship between the business environment and the operations strategy.

For instance, Ellitan (2017) witnessed that environmental dynamism did not affect the operations strategy dimensions such as flexibility strategy, quality strategy, delivery strategy, and low-cost strategy. Similarly, Ward and Duray (2000), observed a negative relationship between environmental dynamism and operations strategy. Also, Pagell (2004) noticed an insignificant impact between environmental dynamism and flexibility strategy. According to Ellitan, (2017), she remarked a null effect between environmental dynamism and the operations strategy.

However, many papers showed a positive impact between these variables and a mix relationship with their dimensions. For instance, Haleem (2020) detected a significant relationship between environmental dynamism on flexibility strategy, environmental hostility on both quality and flexibility strategies, and environmental complexity on all

the other operations strategy dimensions. Similarly, Ward, Bickford, and Leong (1996) believed that a significant relationship might occur between environmental dynamism and operations strategy.

Also, Newell and Swamidass (1987), witnessed that environmental dynamsim had a positive influence on flexibility strategy.

In addition, Amoako-Gyampah (2003) observed that the business environment (environmental hostility and environmental dynamism) had positive effect on all operations strategy's dimensions. Moreover, Badri, Davis, and Davis (2000) noticed a significant relationship between flexibility strategy and environmental hostility, and environmental dynamism with quality, flexibility, and delivery strategies for high performing firms. Also, the authors remarked a positive relationship between environmental hostility with all the four operations strategy's dimensions, and environmental dynamism with all four operations strategy's dimensions in companies that are performing low.

Furthermore, Duray, Leong, Sum, and Ward (1995) remarked a significant effect between environmental hostility and delivery strategy, and environmental dynamism with quality, flexibility, and delivery strategies for high performing firms in Singapore. On the other hand, the authors detected an insignificant effect between environmental hostility and environmental dynamism with all operations strategy's dimensions for low performing firms in Singapore.

According to Wong, Boon-Itt, and Wong (2011), they realized in the presence of high environmental dynamism, there was a positive impact between low-cost and quality strategies, and between delivery and flexibility strategies.

In our research paper, the null hypothesis will detect if business environment (environmental dynamism, environmental hostility, environmental complexity) would have a significant relationship with operations strategy (low-cost strategy, quality strategy, delivery strategy, flexibility strategy).

2.5.1.4 Generic Strategy and Operations Strategy

Many papers showed different interactions between generic and operations strategies. Ward, Bickford, and Leong (1996) believed that a significant relationship could occur between generic strategy (cost leadership and differentiation strategies) and operations strategy (low-cost, flexibility, delivery, and quality strategies). Also, Skinner (1969) argued that both operations and generic strategies must fit. Fawcett, Calantone, and Smith (1997) found a significant effect between delivery strategy and business performance. In addition, Haleem (2020) observed a significant relationship between strategic planning with all operations strategy's dimensions which are low cost, quality, flexibility, and delivery strategies.

Other papers showed a mix relationship between these two variables. For instance, Ellitan (2017) noticed the different relationships between generic strategy (cost leadership and differentiation strategies) with the operations strategy (flexibility, quality, delivery, and low-cost strategies). Her results showed that cost leadership strategy had a significant effect on flexibility, quality, and low-cost strategies. However, cost leadership strategy had insignificant effect on delivery strategy. On the other hand, differentiation strategy had a significant effect on flexibility strategy. While

differentiation strategy had insignificant effect on quality, delivery, and low-cost strategies.

Also, Ward and Duray (2000) remarked that differentiation strategy had a significant relationship with quality, flexibility, delivery, and low-cost strategies, and the strongest relationship between these four was with quality strategy. Also, there was a significant relationship between cost leadership strategy and low-cost strategy.

According to Amoako-Gyampah, and Acquaah (2008), they detected a positive effect between cost leadership and differentiation strategies with all other operations strategy's dimensions which are low cost, flexibility, delivery, and quality strategies.

Furthermore, Ellitan (2017) witnessed a significant impact between cost leadership strategy with quality, delivery, and low-cost strategies. On the other hand, there was significant effect between differentiation with flexibility strategies.

In our research study, our null hypothesis will state that generic strategy would have a positive effect on the operations strategy.

2.5.1.5 Generic Strategy and Business Performance

Many research studies showed an indirect, direct, and a mixed relationship between generic strategy and business performance. For instance, Nandakumar, Ghobadian, and O'Regan (2011) observed that firms that selected any generic strategy (cost leadership, differentiation, or integration strategies) performed better than companies that were trapped in the middle. Also, firms that adopted cost leadership or differentiation strategies performed better than firms that selected integration strategy, where they would have better financial performance.

Some papers showed insignificant relationship between these two variables. For instance, Ward and Duray (2000) noticed an insignificant relationship between generic strategy (cost leadership and differentiation strategies) and companies that had high performance. Similarly, Amoako-Gyampah and Acquaah (2008) remarked a negative influence between the generic strategy (cost leadership and differentiation strategies) and business performance.

On the other hand, many other papers showed a significant effect between these two variables. Ward, Bickford, and Leong (1996) believed that there might be a significant relationship between generic strategy (differentiation and cost leadership strategies) and business performance. For instance, Ellitan (2017) detected that generic strategy (cost leadership and differentiation strategies) had a positive effect on the firms' business performance. Gorondutse and Hilman (2017) witnessed a positive effect between differentiation strategy and business performance.

In addition, Islami, Latkorikj, and Mustafa (2020) stated a significant relationship between differentiation, cost leadership, and focus strategies on the firms' business performance, where the differentiation strategy had the strongest impact on high performing firms among the three strategies. Similarly, Atikiya (2015) witnessed a significant relationship between cost leadership, differentiation, and focus strategies on firms' business performance. Ali, Khan, and Shaqri (2019) detected that cost leadership and differentiation strategies had a significant relationship on business performance, where they believed that cost leadership strategy might outperform differentiation strategy if it was utilized on the Islamic banks in Pakistan since it gave a better performance.

Moreover, Wekesa (2015) noticed a direct positive relationship between all generic strategy's dimensions on firms' business performance. Furthermore, Ellitan (2017) remarked a significant relationship between the generic strategy and business performance.

A third option we observed is the mixed relationship between competitive and manufacturing strategies. For instance, Ahmad, Gutierrez- Gutierrez, and Munoz Rosas (2017) witnessed a positive relationship between quality strategy and all generic strategy's dimensions. Also, there was a significant relationship between generic strategy and business performance, excluding focus strategy. According to Eker and Eker (2019), they observed an insignificant effect between the interactions of cost leadership strategy and environmental dynamism on firms 'business performance. But there was a significant relationship between differentiation strategy and environmental dynamism on high performing firms. Also, Azeem, Parocha, Saboor, and Shakeel (2020) noticed a significant relationship between cost leadership strategy and business performance. According to Crespo, Fontes, and Simoes (2020), they remarked a positive effect between quality and differentiation strategies with business performance. However, there was a negative effect between differentiation and cost leadership strategies with international business performance.

Also, Baraza (2017) detected a mixed relationship between generic strategy and business performance. Cost leadership and focus strategies had a significant relationship with business performance, while differentiation strategy did not have a strong relationship with business performance.

Moreover, Oyekunle, Abimbola, Windapo, Olabode, and James (2015) witnessed that cost leadership strategy had a positive relationship with business performance, while

differentiation strategy had a negative relationship on business performance. However, focus strategy did not affect business performance.

Furthermore, Teeratansirikool, Siengthai, Badir, and Charoenngam (2013) observed that differentiation strategy had positive relationship with firms' business performance, unlike cost leadership strategy.

In our research study, our null hypothesis will state that generic strategy has a significant relationship on business performance.

2.5.1.6 Operations Strategy and Business Performance

Research studies showed that there was an indirect, direct, and the mixed relationship between these variables.

For instance, Ellitan (2017) noticed that operations strategy (flexibility, quality, delivery, and low-cost strategies) had no impact on business performance either partially or simultaneously. Similarly, Ellitan (2017), in another study, remarked a null impact between the operations strategy and business performance. Also, Pagell (2004) detected an insignificant relationship between flexibility strategy and business performance.

On the other hand, many research papers showed a significant relationship between operations strategy and business performance. For instance, Ward, Bickford, and Leong (1996) believed that a significant relationship might occur between operations strategy and business performance. Also, Newell and Swamidass (1987) witnessed that flexibility strategy had a significant influence on business performance. Similarly, Uman and Sommanawat (2019) observed a positive relationship between flexibility strategy

with firms' business performance. In addition, Swink, Narasimhan, and Wang (2007) noticed a strong relationship between quality and delivery strategies on business performance, and a significant relationship between flexibility strategy and business performance.

A third option we observed is the mixed relationship between operations strategy and business performance. For instance, Ward and Duray (2000) observed a significant relationship between quality strategy (only) and firms that have high business performance. However, there was a negative effect between cost, delivery, and flexibility strategies with firms that have high business performance. Also, Badri, Davis, and Davis (2000) noticed a significant relationship between the operations strategy and firms with high and low performance. On the dimensions' level, there was a significant impact between flexibility, quality, and delivery strategies with high business performing firms in the UAE. On the other hand, there was a significant relationship between the low-cost strategy and low business performance. In addition, Duray, Leong, Sum, and Ward (1995) remarked a significant relationship between quality, flexibility, and delivery strategies with high business performance. However, there was an insignificant effect between low cost and high business performance. On the other hand, there was a positive relationship between all the operations strategy's dimensions and low business performance. Also, Amoako-Gyampah and Acquaah (2008) detected a significant relationship only between quality strategy and business performance. The other dimensions (low cost, delivery, and flexibility strategies) did not have a strong relationship with business performance. According to Oltra and Flor (2010), they witnessed a positive relationship between cost and quality strategies on business

performance, while there was a negative impact from delivery and flexibility strategies. Operations strategy did not have a significant impact on performance.

Moreover, Chang, Cheong, Sheu, and Yang (2003) observed flexibility strategy had a significant impact on business performance. According to Jeihoony, Jabarzadeh, Kumar, and Garza-Reyes (2020), they realized that quality and flexibility strategies had a significant effect on business performance. However, delivery and low-cost strategies harmed business performance.

In our null hypothesis, we will state that both operations strategy and business performance are significant.

2.5.2 Mediation Effect

2.5.2.1 Business Environment, Generic Strategy, and Operations Strategy

Some papers studied the relationship between business environment, generic strategy, and operations strategy.

For instance, Ward and Duray (2000) observed an insignificant relationship between environmental dynamism and all operations strategy's dimensions (cost, flexibility, quality, and delivery strategies). However, the authors believe that this path is mediated by generic strategy (differentiation strategy), since they observed that differentiation strategy had a significant relationship with both environmental dynamism and all operations strategy's dimensions, especially with quality strategy.

However, Ellitan (2017) noticed that generic strategy only had a significant relationship

with operations strategy. However, generic strategy do not have a strong relationship with environmental dynamism. Hence, generic strategy did not act as a mediator between environmental dynamism and operations strategy. Similarly, Ellitan (2017) in another study remarked an insignificant effect between environmental dynamism with the generic strategy. Even though there was a mixed significant relationship between generic strategy with operations strategy, generic strategy could not act as a mediator between environmental dynamism and operations strategy.

Our null hypothesis will state that the generic strategy mediates the relationship between the business environment and operations strategy.

2.5.2.2 Business Environment, Generic Strategy, and Business Performance

Many papers studied the relationship between the business environment, generic strategy, and business performance.

For instance, Li (2001) observed that only product innovation and marketing differentiation strategies mediate the relationship between business environment and business performance.

However, Ellitan (2017) noticed that generic strategy (cost leadership or differentiation strategies) did not have a strong relationship with environmental dynamism. Even though generic strategy had a strong influence on business performance, it could not act as a mediator between environmental dynamism and business performance.

Also, Ward and Duray (2000) observed that generic strategy (differentiation strategy) had a strong relationship with environmental dynamism. However, the generic strategy did not have a strong influence on high business performance. Hence, the generic

strategy did not act as a mediator between environmental dynamism and high business performance.

Also, Ellitan (2017) in another study remarked insignificant relationship between environmental dynamism with the generic strategy. Even though there was a significant relationship between generic strategy and business performance, generic strategy could not act as a mediator between environmental dynamism and business performance.

Our null hypothesis will state that the generic strategy mediates the relationship between the business environment and business performance.

2.5.2.3 Business Environment, Operations Strategy and Business Performance

Some papers studied the interactions of business environment, operations strategy, and business performance.

For instance, Newell and Swamidass (1987) observed that operations strategy (only flexibility strategy) mediates the relationship between environmental dynamism and business performance. Also, Badri, Davis, and Davis (2000) noticed that operations strategy mediated the relationship between environmental dynamism and firms with high or low business performance.

On the other hand, Ellitan (2017) observed that operations strategy did not have any relationship with either environmental dynamism or firms' business performance. Hence, operations strategy did not act as a mediator between environmental dynamism and firms' business performance.

Also, Ward and Duray (2000) observed that operations strategy did not have a strong relationship with environmental dynamism. Even though operations strategy had a

strong influence on business performance, it could not act as a mediator between environment dynamism and business performance.

Also, Pagell (2004) noticed an insignificant relationship between environmental dynamism and flexibility strategy. Also, there was no significant relationship between flexibility strategy and business performance. Therefore, operations strategy did not act as a mediator between environmental dynamism and business performance.

Our null hypothesis will state that the operations strategy will mediate the relationship between the business environment and the business performance.

2.5.2.4 Generic Strategy, Operations Strategy, and Business Performance

Some research papers showed the interactions between generic strategy, operations strategy, and business performance.

For instance, Ward and Duray (2000) observed an insignificant relationship between generic strategy (cost leadership and differentiation strategies) and firms that have high business performance. However, the authors believe that this path is mediated by operations strategy through quality strategy. Also, Swink, Narasimhan, and Wang (2007) remarked that operations strategy helped mediate the relationship between generic strategy and business performance.

However, Ellitan (2017) witnessed that operations strategy had a strong influence on generic strategy. However, operations strategy did not have a strong relationship with the firms' business performance. Therefore, operations strategy did not act as a mediator between generic strategy and business performance.

Our null hypothesis will state that the operations strategy will mediate the relationship

between generic strategy and business performance.

2.6 Conceptual Framework

This section is defined as a document that describes the key elements for the research, and test their interactions (Mathieson, Peacock, & Chin, 2001). Our research investigated the interactions of four main variables which are business environment, generic strategy, operations strategy, and business performance.

From Ward and Duray (2000) framework, it shows how both generic and operations strategies help mediate the relationship between business environment and business performance that contributes to competitive advantage, better decision making, and higher performance. More specifically, this model might help us find an indirect influence between business environment, generic strategy, and operations strategy on business performance. The framework for our research is shown in figure 1.

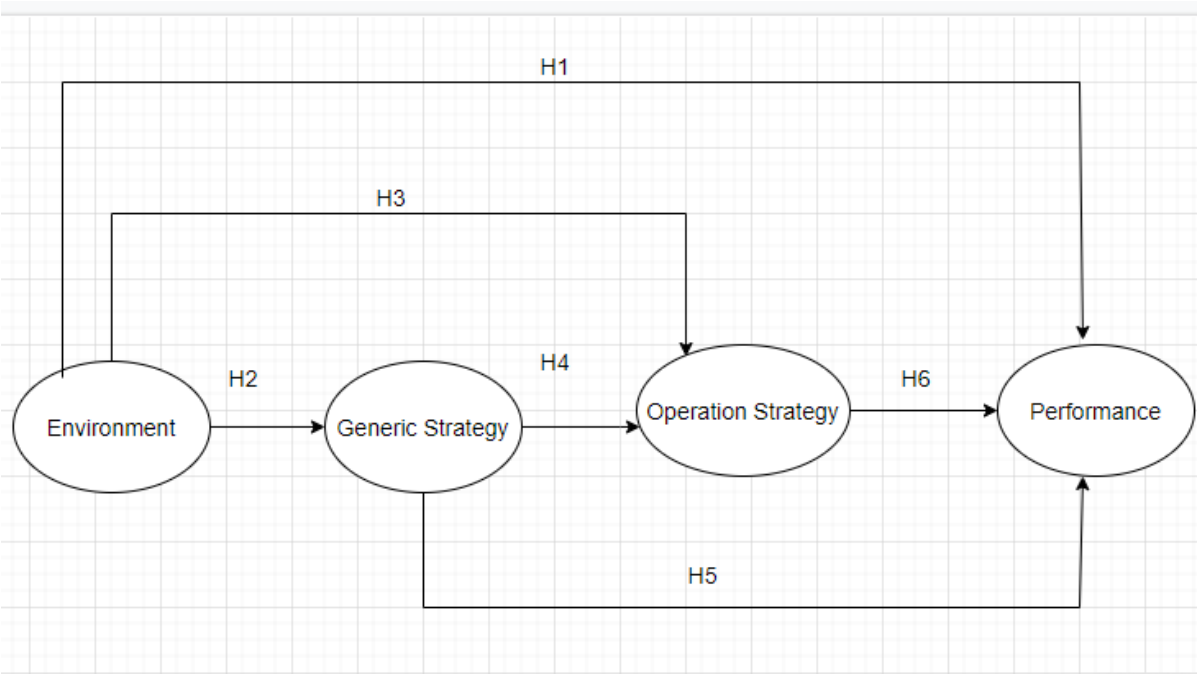

Figure 1: The Conceptual Framework for the Study

Even though Ward and Duray (2000) and Ellitan (2017) suggested to separate firms into two categories based on the level of performance (high and low), we will combine all the results under one category. We will later test the validity of the model with our data in chapter three by using reliability and factor analysis via SPSS. Skinner (1969) argues that both operations and generic strategies must fit.

2.7 Research Gaps

Past literature suggested that studies were performed on the interactions between business environment, generic strategy, operations strategy, and business performance. However, the model that was made by Ward and Duray (2000) only included environmental dynamism and did not include environmental hostility or environmental complexity. In addition, it might be beneficial to observe the impact of COVID-19 on the environmental dynamism decisions. Also, the model only included cost leadership and differentiation strategies, but it did not include focus strategy.

Moreover, only two papers were observed to state the results for the whole model. First, the model was utilized in three US industries by Ward and Duray (2000) which was in a developed country. This model showed that both generic and operations strategies mediated the relationship between environmental dynamism and business performance. However, in Ellitan (2017) study, the model was utilized in small and medium enterprises (SMEs) in Indonesia, a developing country. Even though the study selected high performing SMEs, generic and operations strategies did not mediate the relationship between environmental dynamism and business performance.

Hence, few studies were done to see the impact of both generic and operations strategies on both the business environment and the business performance.

The reviewed literature presented several inconsistent results on the interactions between business environment, generic strategy, operations strategy, and firm performance. Hence, more research should be done to test the interactions of these four variables.

To satisfy this gap, and to test these interactions, the research will be conducted in Lebanon. Lebanon is a developing country, and no studies applied this model in this country before. Thus, this is the first study that will tackle the effect of these four variables in a country like Lebanon. We will try to test the data using individuals that work in different industries in Lebanon.

Also, it might be interesting to observe the additional elements which will be included in the model which are environmental hostility, environmental complexity, and focus strategy.

2.8 Hypothesis for Testing

From Ward and Duray (2000) model that we will be selecting for our research study, and taking into consideration the new business environment elements (environmental hostility and environmental complexity), and including the focus strategy, ten hypotheses were observed:

H1 There is a significant relationship between business environment and business performance.

H1 a: There is a significant relationship between environmental dynamism and business performance.

H1 b: There is a significant relationship between environmental complexity and business performance.

H1.3 There is a significant relationship between environmental hostility and business performance.

H2 There is a significant relationship between business environment and generic strategy.

H2 a: There is a significant relationship between environmental dynamism and cost leadership strategy.

H2 b: There is a significant relationship between environmental dynamism and differentiation strategy.

H2 c: There is a significant relationship between environmental dynamism and focus strategy.

H2 d: There is a significant relationship between environmental complexity and cost leadership strategy.

H2 e: There is a significant relationship between environmental complexity and differentiation strategy.

H2 f: There is a significant relationship between environmental complexity and focus strategy.

H2 g: There is a significant relationship between environmental hostility and cost leadership strategy.

H2 h: There is a significant relationship between environmental hostility and differentiation strategy.

H2 i: There is a significant relationship between environmental hostility and focus strategy.

H3 There is a significant relationship between business environment and operations strategy.

H3 a: There is a significant relationship between environmental dynamism and low-cost strategy.

H3 b: There is a significant relationship between environmental dynamism and quality strategy.

H3 c: There is a significant relationship between environmental dynamism and delivery strategy.

H3 d: There is a significant relationship between environmental dynamism and flexibility strategy.

H3 e: There is a significant relationship between environmental complexity and low-cost strategy.

H3 f: There is a significant relationship between environmental complexity and quality strategy.

H3 g: There is a significant relationship between environmental complexity and delivery strategy.

H3 h: There is a significant relationship between environmental complexity and flexibility strategy.

H3 i: There is a significant relationship between environmental hostility and low-cost strategy.

H3 j: There is a significant relationship between environmental hostility and quality strategy.

H3 k: There is a significant relationship between environmental hostility and delivery strategy.

H3 l: There is a significant relationship between environmental hostility and flexibility strategy.

H4 There is a significant relationship between generic and operations strategies.

H4 a: There is a significant relationship between cost leadership and low-cost strategies.

H4 b: There is a significant relationship between cost leadership and quality strategies.

H4 c: There is a significant relationship between cost leadership and delivery strategies.

H4 d: There is a significant relationship between cost leadership and flexibility strategies.

H4 e: There is a significant relationship between differentiation and low-cost strategies.

H4 f: There is a significant relationship between differentiation and quality strategies.

H4 g: There is a significant relationship between differentiation and delivery strategies.

H4 h: There is a significant relationship between differentiation and flexibility strategies.

H4 i: There is a significant relationship between focus and low-cost strategies.

H4 j: There is a significant relationship between focus and quality strategies.

H4 k: There is a significant relationship between focus and delivery

strategies.

H4 l: There is a significant relationship between focus and flexibility strategies.

H5 There is a significant relationship between generic strategy and business performance.

H5 a: There is a significant relationship between cost leadership strategy and business performance.

H5 b: There is a significant relationship between differentiation strategy and business performance.

H5 c: There is a significant relationship between focus strategy and business performance.

H6 There is a significant relationship between operations strategy and business performance.

H6 a: There is a significant relationship between low-cost strategy and business performance.

H6 b: There is a significant relationship between quality strategy and business performance.

H6 c: There is a significant relationship between delivery strategy and business performance.

H6 d: There is a significant relationship between flexibility strategy and business performance.

H7 Generic strategy mediates relationship between business environment and operations strategy.

H8 Generic strategy mediates relationship between business environment and business performance.

H9 Operations strategy mediates relationship between business environment and business performance.

H10 Operations strategy mediates relationship between generic strategy and business performance.

From H1 to H6, we will test the direct effect between two variables. Then, from H7 to H10, we will test the mediation effect where we will use three variables.

In the next chapter (chapter 3), we will observe how the data was collected, and we will test the data using reliability and factor analysis via SPSS.

Chapter 3

Research Methodology

3.1 Introduction

This chapter represents the methodological establishments that addresses the research questions and hypotheses for exploring the different relationships between business environment, generic strategy, operations strategy, and business performance.

In this chapter, we will cover the following sections: philosophical orientation of the research, cross sectional research, explanatory study, survey strategy,, delivery and collection method of questionnaire administration, measurement of variables (operational definition and scales), operational definition (measurement development and instrument and scale development), items of observed variables, ethical considerations, credibility of research findings (reliability analysis and factor analysis), and statistical analysis for demographic variables.

3.2 Philosophical Orientation of the Research

Research philosophy is defined as improving and understanding the nature of knowledge in a certain branch of learning to satisfy our curiosity (Haleem, 2020). Epistemology, ontology, and axiology are the three main classes of philosophy (Saunders, Lewis, & Thornhill, 2009), where they help answer research questions and commands the research methodology (Greener, 2008; Lather, 1992).What makes the research philosophy or

approach better depends on the research objective and questions (Saunders, Lewis, & Thornhill, 2009).In our study, positivism philosophical stance is utilized since it stress on statistical analysis, quantifiable observations, and it helps in making a general idea about the industry (Burrell & Morgan, 2017).Therefore, the development of theory is done by analyzing existing theories, which lead us to derive our hypothesis, and then to test and confirm/refute our theory (McNeil & Townley, 1986; Saunders et al., 2009). After the research philosophy, to show how a researcher understands the theory at the beginning of the research, a research approach should be conducted. In this relation, research approach can have two dimensions which are inductive and deductive (Saunders et al., 2009). Inductive approach claim that data should first be collected and based on it the theory is developed. While in deductive approach, the researcher should develop the theory, then the hypothesis/hypotheses, design a research strategy, and finally test the hypothesis (Bryman, 2016; Maylor, Blackmon, & Huemann, 2016; Saunders et al., 2009). Hence, referring to the research objectives, a deductive approach was done based on past research, and literature review developed hypothesis that will be tested.

In compliance with the research strategy, research methods are done to collect relevant data that are based on the research questions/objectives. Research methods have many dimensions which are survey, interview, focus groups and observations (Greener, 2008). Some researchers, after recognizing the pros and cons with each data collection strategy, advocate utilizing survey that can best fit the research situation, therefore, the study will adapt survey strategy (Amaratunga, Baldry, Sarshar, & Newton, 2002; Yin, 1994).

3.3 Cross Sectional Research

Two methods can be conducted to collect data during a certain period. “Cross sectional” method is when the data is collected once. while the second method is “longitudinal” which is utilized when the data is collected several times over a certain period (Saunders et al., 2009). Both methods have their own advantages and disadvantages. For instance, respondents might not be able cooperate if the longitudinal research was conducted for a long period, and there is a high possibility that the study might face biased responses and misrepresentation of sample population (Churchill & Iacobucci, 2006). On the other hand, some researchers believe longitudinal research is costly ineffective and requires time in comparison to the cross-sectional research. Hence, they believe conducting cross-sectional research is more beneficial (Sekaran, 2003). Moreover, in the cross-sectional research, survey strategy is often implemented (Easterby-Smith, Thorpe, & Jackson, 2008; C. Robson, 2002). In this collection, this study will utilize the cross-sectional approach to data collection.

3.4 Explanatory Study

The nature of study to be conducted such as explanatory, descriptive, and exploratory or even a mix of any or all is dictated by the research question(s) (Saunders et al., 2009). Under the umbrella of explanatory studies, the researchers explore the research questions that aim to discover different interactions among the given elements. The prominence of the study is on finding a better understanding of the underlying association between variables (Saunders et al., 2009). Therefore, the research will follow explanatory study based on the research questions.

3.5 Survey Strategy

Various research strategies can be utilized to conduct a research like survey or experiment (Saunders et al., 2009). However, research questions, objectives, time and resources constraints, and the extent of existing knowledge are elements that can affect the fitness of a research strategy. According to Yin (2003), any of the above research strategies can be implemented for any explanatory, exploratory, and descriptive research. Nevertheless, the research situation determines if the research strategy is effective or not, hence no research strategy is better than the other since it depends on the situation (Saunders et al., 2009). In this connection, a survey strategy is utilized to gather huge amounts of data through different means such as questionnaire and structured observation. According to Haleem (2020), a questionnaire is an "effective tool to collect numeric data that could be examined by descriptive tools". Statistical analysis can help us understand the different relationships between our variables and developing a new model. Better explanation and understanding, and more control over the process can be achieved while collecting data utilizing a questionnaire. Moreover, it is commonly used in business research and associated with deductive approach. However, it is sometimes perceived as authoritative (Saunders et al., 2009).

3.6 Delivery and Collection Method of Questionnaire Administration

Questionnaire is utilized to collect data for explanatory and descriptive research. Self-administered (sent and received through internet or intranet), postal/mail (sent and

received by post), delivery and collection (delivered and collected by hand), and telephone questionnaire (data collected through phone) are all methods that can be utilized under questionnaire. Reaching out a particular person, particular characteristics of respondents, getting un-contaminated responses, suitable sample size, type and number of questions needed to be asked, and resource constraints such as availability of time, funds, availability of respondents, and data feeding are all constructs that can affect the choice of questionnaire (Saunders et al., 2009).

In this connection, the researcher can make sure whether the right respondents have filled in the questionnaire that adds to the reliability of the data and an assessment of biasness in case of refusals. Hence, it can be beneficial to conduct and utilize delivery and collection via questionnaire type of administration. On the other hand, data collection might require long periods utilizing the questionnaire method (Saunders et al., 2009). Recognizing the pros and cons for each questionnaire design, self-administered online questionnaires was designed using “Google Forms”, and sent it to several Lebanese graduates who work in different industries. We believe that this technique is the best to utilize for our study due to the COVID-19 pandemic, and since it can save provide us with many benefits such as time, low cost, fast, accessible, and can be used easily by participants. The questionnairre contained five basic sections which are the following: “Demographics, Bussiness Environment, Generic Strategy, Operations Strategy, and Business Performance”.

3.7 Measurement of Variables: Operational Definition and Scales

Measuring variables is an integral and important part of research design.

3.8 Operational Definition

Some variables can be measured either with objective and precise metrics, or by subjective measures such as motivation and satisfaction. Hence, it might not be a simple task measuring variables. Simple questions about age, educational level, and physical measuring instruments (height and weight) can be utilized in the first type of variables. In the second type, "variables are measured by breaking the abstract notion into some observable characteristics known as operational definition" (Sekaran, 2003). Reduction in the abstract concept that can be measured in some noticeable way by defining its dimensions (aspects, properties, and characteristics etc.) and elements (observable and measurable elements) can occur in the operationalization of variable (Hair Jr, Wolfinbarger, Money, Samouel, & Page, 2015). On the other hand, failing to correctly define a concept will render itself to confusion with other concepts and invalid measurement might occur in operational definitions of variables (Gravetter & Forzano, 2018; Sekaran, 2003).

3.8.1 Measurement Development

A vital part in the measurement development is identifying item generations (Hinkin, 1995). Therefore, reviewing preceding literature was conducted to avoid any errors in measurement development. To discover the past research plans, we utilized literature survey which is the most fast and inexpensive method Churchill & Iacobucci, 2006). Hence, reviewing past literature review from different papers and finding past questionnaires, that are newly dated, related to our variables were utilized to develop our

research questionnaire. Also, utilizing the questionnaire method was beneficial for our conceptual model of the research, were it helped us detecting the vital elements for our study. Four key elements were derived from the literature which are:' business environment, generic strategy, operations strategy, and the business performance'. To measure an abstract concept, a scale is required. According to Haleem (2020), "A scale is a tool or metric that is used to differentiate among individuals on variables of interest. Scale can vary from gross measurement to some fine-tuned tool". In addition, utilizing nominal or ratio scales can increase the level of complexity, and some researchers believe that as this level is high, the more accurate and flexible are the scales in calculating data (Hinkin, 1995; Sekaran, 2003). If the data is very complex, a better or more powerful statistical analysis can be used to have higher confidence in the results. Also, some researchers recommend utilizing five- or seven-point scale where the level of education of majority is low respectively (Hair Jr, Wolfinbarger, Money, Samouel, & Page, 2015), and some advise us to consider the culture before using the likert scale point (Sekaran, 2003). For our study, we have collected data through rank order scale (interval scales) on five-point Likert Scale. The below table lists studies that measured the underlying constructs:

Table 1: Sources of Construct Measurement

S#	Construct Name	No. of Items	Sources	Symbol
A	Business Environment	3	Haleem (2020)	
1	Environmental Dynamism	5		DYN
2	Environmental Complexity	5		CMP
3	Environmental Hostility	6		HOS
B	Generic Strategy	3	Baraza (2017)	

1	Cost Leadership Strategy	8		CLS
2	Differentiation Strategy	6		DIF
3	Focus Strategy	5		FOC
C	Operations Strategy	4	Haleem (2020)	
1	Low-Cost Strategy	5		LCS
2	Quality Strategy	5		QTY
3	Delivery Strategy	5		DEL
4	Flexibility Strategy	5		FLX
D	Business Performance	2	Haleem (2020)	
1	Financial Performance	5		FIN
2	Non-Financial Performance	5		NFIN

3.8.2 Instrument and Scale development

From past validated measures, we generated and conducted our instruments/questionnaires for our study. The questionnaire is developed to help us test our research hypothesis if they are significant or not which include the following five different sections. Section A seeks general demographic information about the respondents and their company. We asked the participants for their gender, age, city of residence, highest degree of education, working industry, and their role in the industry. Section B talks about our first variable, which is the business environment and it contain the following three dimensions: “environmental dynamism, environmental complexity, and environmental hostility”. Obtaining information about the perceived business environment is the aim of section B. Section C covers the generic strategy that contain three dimensions which are:” cost leadership strategy, differentiation strategy, and focus strategy”, where we seek to understand which generic strategy the company believes the best to be utilized under a particular business environment. Section D measures the operations strategy that contain four dimensions:” low-cost strategy, quality strategy, delivery strategy, and flexibility strategy. The level of importance attached to each

operations strategy show the type of strategy employed by a firm in a particular business environment. Finally, in section E, the last variable that is in our questionnaire is the business performance which contains two dimensions: “financial performance, and Non-financial performance”. This section helps identifying different levels in financial and non-financial performance achieved by a firm with specific generic and operations strategies in a particular business environment. We must note that all our four variables in our questionnaire are second order factors since each variable contains its unique and different dimensions. We followed the recommendation of Hair, Black, Babin, and Anderson (2010) that constructs should be measured with five-point Likert Scale provided the level of education of majority of target population is low. Each point on the Likert Scale represented the level of importance attached to each measuring item from 1 (unimportant) to 5 (very important). Items of each observed variables of the instrument are discussed below.

3.9 Items of observed Variable

3.9.1 Business Environment

Based on literature review and the research situation, we found that business environment characteristics is a second order factor with three first order factors: environmental complexity; environmental dynamism; and environmental hostility.
In our study, the scale is adopted from Haleem (2020). Environmental dynamism has five items, environmental complexity has five items, while environmental hostility has six items. The questionnaire can be viewed in the appendix section.

3.9.2 Generic Strategy

Based on literature review and the research situation, we found that generic strategy is a second order factor with three first order factors: cost Leadership, differentiation, and focus strategies.

In our study, the scale is adopted from Baraza (2017). Cost leadership strategy has eight items; differentiation strategy has six items, while focus strategy has five items. The questionnaire can be viewed in the appendix section.

3.9.3 Operations Strategy

Based on literature review and the research situation, we found that operations strategy is a second order factor with four main elements: Low-cost strategy, quality strategy, deliver strategy, and flexibility strategy.

In our study, the scale is adopted from Haleem (2020). All operations strategy's dimensions have five items. The questionnaire can be viewed in the appendix section.

3.9.4 Business Performance

Based on literature review and the research situation, we found that business performance is a second order factor with two first order factors: Financial and Non-Financial Performance.

In our study, the scale is adopted from Haleem (2020). All Business Performance dimensions have five items. The questionnaire can be viewed in the appendix section.

3.10 Ethical Considerations

Some ethical issues were considered during the process of survey administration. The respondents would first confront an informed consent form to understand the topic, see its IRB approval, and they had the option to proceed with it. We tried our best not to put any pressure on participants, and to meet participants' inquiries if needed about any vague information in the survey. Also, we made sure the respondents were autonomous in the process of filling the survey and were anonymous for both their identity and their information they shared.

In addition, we pledged to keep the collected data from the questionnaire always stay private, confidential, and anonymous. On another note, explaining the main aim of the survey was introduced to the participants before they start filling the data which tackled "The Role of Business Environment, Generic Strategy, and Operations Strategy, on Business Performance in the Prescence of COVID-19".

3.11 The Credibility of Research Finding

Reliability and validity are utilized to make sure the research findings become more credible if efforts are made to increase the possibility of getting right answers. Consistent and stable results will be established defines reliability. While making sure that the right/intended concept is measured well defines validity.

A popular tool that evaluates the strength of the consistency of a concept for any given measurement, and which is commonly utilized in papers that implement multiple point Likert questions in a questionnaire is the Cronbach's alpha. Hence, to study reliability, we utilized Cronbach's alpha for our variables: Business environment, generic srategy,

operations strategy, and business performance. Cronbach's alpha value exceeding the lower limit of 0.6 indicates a high-scale reliability, and alpha coefficients that are lower than 0.5 are usually rejected (Nunnaly & Bernstein, 1994). Also, we implemented a correlation between each scale item and the overall scale to measure the internal consistency and convergent validity. Furthermore, factor analysis was utilized to examine the one-dimensionality of each scale and subscale. After conducting this test, we choose how many factors or test items to keep. Factor analyses clarify the different relationships between test items (Crawford, 1975; Fabrigar, Wegener, MacCallum, & Strahan, 1999).

3.11.1 Reliability

Reliability analysis is a good tool to observe items that are related and replaceable, and when measuring a certain construct. It is usually done for reflective scale measured by couple items.

In our study, we conducted a reliability analysis test for our variables using SPSS. The results are shown below:

Table 2 Reliability Analysis showing Cronbach's Alpha and the excluded responses from each dimension.

Scale		Cronbach's Alpha Value	Excluded Responses
Business Environment	Environmental Dynamism (DYN)	0.62	3

	Environmental Complexity (CMP)	0.711	1
	Environmental Hostility (HOS)	0.607	3
Generic Strategy	Cost Leadership Strategy (CLS)	0.757	3
	Differentiation Strategy (DIF)	0.783	1
	Focus Strategy (FOC)	0.783	1
Operations Strategy	Low-Cost Strategy (LCS)	0.739	3
	Quality Strategy (QTY)	0.76	1
	Delivery Strategy (DEL)	0.793	0
	Flexibility Strategy (FLX)	0.87	0
Business Performance	Financial Performance (FIN)	0.891	0
	Non-Financial Performance (NFIN)	0.812	0

We are going to analyze the results from table 2. Under the business environment we have three dimensions: environmental dynamism, environmental complexity, and environmental hostility. Environmental dynamism generated a Cronbach's alpha of 0.62, after we removed three sub-items related to this variable (two sub-items were left out of five). In environmental complexity, Cronbach's alpha of 0.711 was generated, after we removed one sub-item related to this variable (four sub-items were left out of five). In environmental hostility, Cronbach's alpha of 0.607 was generated, after we removed three sub-items related to this variable (three sub-items were left out of six).

Under generic strategy, similarly we have three dimensions: Cost leadership strategy, differentiation strategy, and focus strategy. Cost leadership strategy generated Cronbach's alpha of 0.757, after we removed three sub-items related to this variable (five sub-items were left out of eight). Under differentiation strategy, a Cronbach's alpha of 0.783 was generated, after we removed one sub-item related to this variable (five sub-items were left out of six). Under focus strategy, Cronbach's alpha of 0.783 was generated, after we removed one sub-item related to this variable (four sub-items were

left out of five).

Under operations strategy, we have four dimensions: Low-cost strategy, quality strategy, delivery strategy, and flexibility strategy. Low-cost strategy generated a Cronbach's alpha of 0.739, after we removed three sub-items related to this variable (two sub-items were left out of five). Under quality strategy, Cronbach's alpha of 0.76 was generated, after we removed one sub-item related to this variable (four sub-items were left out of five). Under delivery strategy, Cronbach's alpha of 0.793 was generated, and we did not remove any sub-item under this variable (All five sub-items were left). Under flexibility strategy, Cronbach's alpha of 0.87 was generated, and we did not remove any sub-item under this variable (All five sub-items were left).

Under business performance, we have two dimensions: Financial performance and non-financial performance. Under financial performance, Cronbach's alpha of 0.891 was generated, and we did not remove any sub-item under this variable (All five sub-items were left). Under non-financial performance, Cronbach's alpha of 0.812 was generated, and we did not remove any sub-item under this variable (All five sub-items were left).

Some of the sub-items from the above variables were removed to enhance the reliability for our study. We can see that under DYN and HOS scales, there Cronbach's alpha is below 0.7. However, some researchers believe that a Cronbach's alpha above 0.6 also shows a high-scale reliability (Nunnaly & Bernstein, 1994). Thus, both DYN and HOS will be kept in our study analysis.

From the above reliability test, the Cronbach's Alpha results are acceptable for all variables, which shows a high scale-reliability. Moving on, we will conduct a factor analysis that will help us confirm the one-dimensionality of the various scales and subscales.

3.11.2 Factor Analysis

It is a technique that help us reduce and develop data constructs (Haleem, 2020). Many benefits can result in conducting EFA such as knowing the association/correlation among variables and exploring factor structure based on the strength of correlation among items of a variable (Osterlind, Tabachnick, & Fidell, 2001). In addition, it does not require priori theory before conducting it and identifies problematic variables which makes it a powerful tool (Gaskin, 2018). On the other hand, CFA complements EFA by confirming the factor structure explored in EFA.

In our study, Factor Analysis process involved examining the one-dimensionality of each scale and subscale. Four entities are going to be studied in our paper which are business environment, generic strategy, operations strategy, and business performance.

3.11.2.1 Business Environment (ENV)

In the business environment, three dimensions emerge, which are DYN, CMP, and HOS. Factor Analysis steps were conducted for DYN using SPSS. Items 1 and 2 were only used that fall under DYN. The below tables are generated:

Table 3: Descriptive Statistics for Environmental Dynamism

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
DYN1	4.00	.849	51
DYN2	4.37	.662	51

From table 3, the mean, standard deviation, and analysis are shown for each DYN item. DYN 1 has a mean of 4 while DYN 2 has a mean of 4.37. DYN has a standard deviation of 0.849, while DYN 2 has a standard deviation of 0.662. Both DYN 1 and DYN 2 have the same value analysis N which is 51.

Table 4: KMO and Bartlett's Test for Environmental Dynamism

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	11.688
	Df	1
	Sig.	.001

In table 4, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for DYN is 0.5 and shows a significance level of 0.001.

Table 5: Component Matrix for Environmental Dynamism

Component Matrix	
	Component
	1
DYN1	0.855
DYN2	0.855
Extraction Method: Principal Component Analysis.	

In table 5, the component matrix is produced for each item. Both DYN 1 and DYN 2 have the same component matrix component of 0.855. Since 0.855 is greater than 0.4,

then both these items are significant.

Table 6: Total variance explained for Environmental Dynamism

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	1.463	73.138	73.138

Extraction Method: Principal Component Analysis.

In table 6, the DYN's cumulative percentage is 73.138%, which is more than 50%, hence helping us to check and confirm that DYN is a reliable measure in our analysis. Similarly, factor Analysis steps were conducted for environmental complexity using SPSS. Items 2, 3, 4, and 5 were used that fall under environmental complexity. The below tables are generated:

Table 7: Descriptive Statistics for Environmental Complexity

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
CMP2	3.82	1.090	51
CMP3	3.90	.922	51
CMP4	3.90	.922	51
CMP5	3.78	.879	51

From table 7, the mean, standard deviation, and analysis are shown for each CMP item. CMP 2, CMP 3, CMP 4, and CMP 5 have a mean of 3.82, 3.9, 3.9, and 3.78, respectively. CMP 2, CMP 3, CMP 4, and CMP 5 have a standard deviation of 1.090, 0.922, 0.922, and 0.879, respectively. All CMP items have the same analysis N of 51.

Table 8: KMO and Bartlett's Test for Environmental Complexity

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.684
Bartlett's Test of Sphericity	Approx. Chi-Square	37.897
	Df	6
	Sig.	.000

In table 8, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for CMP is 0.684 and shows a significance level of 0.000.

Table 9: Component Matrix for Environmental Complexity

Component Matrix	
	Component
	1
CMP2	0.671
CMP3	0.751
CMP4	0.763
CMP5	0.757
Extraction Method: Principal Component Analysis.	

In table 9, the component matrix is produced for each item. CMP 2, CMP 3, CMP 4, and CMP 5 have a component matrix value of 0.671, 0.751, 0.763, and 0.757, respectively. Since all these values are above 0.4, then these items are significant.

Table 10: Total Variance Explained for Environmental Complexity

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %

1	2.170	54.249	54.249

Extraction Method: Principal Component Analysis.

In table 10, the CMP's cumulative percentage is 54.249%, which is more than 50%, hence helping us to check and confirm that CMP is a reliable measure in our analysis. Similarly, factor Analysis steps were conducted for environmental hostility using SPSS. Items 1, 3, and 6 were only used that fall under environmental hostility. The below tables are generated:

Table 11: Descriptive Statistics for Environmental Hostility

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
HOS1	4.18	.842	51
HOS3	3.73	.777	51
HOS6	4.02	.948	51

From above, in the first table, the mean, standard deviation, and analysis are shown for each HOS item. HOS 1, HOS 3, and HOS 6 have a mean of 4.18, 3.73, and 4.02, respectively. HOS 1, HOS 3, and HOS 6 have a standard deviation of 0.842, 0.777, and 0.948, respectively. All HOS items have the same analysis N of 51.

Table 12: KMO and Bartlett's Test for Environmental Hostility

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.588
Bartlett's Test of Sphericity	Approx. Chi-Square	19.649
	Df	3
	Sig.	.000

In table 12, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for HOS is 0.588 and shows a significance level of 0.000.

Table 13: Component Matrix for Environmental Hostility

Component Matrix	
	Component
	1
HOS1	0.838
HOS3	0.788
HOS6	0.625
Extraction Method: Principal Component Analysis.	

In table 13, the component matrix is produced for each item. HOS 1, HOS 3, and HOS 6 have a component matrix value of 0.838, 0.788, and 0.625, respectively. Since all these values are above 0.4, then these items are significant.

Table 14: Total Variance Explained for Environmental Hostility

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	1.714	57.130	57.130

Extraction Method: Principal Component Analysis.

In table 14, the HOS's cumulative percentage is 57.130%, which is more than 50%, hence helping us to check and confirm that HOS is a reliable measure in our analysis.

From the above analysis of the business environment dimensions, we can run factor analysis that involves these three dimensions. The below table is generated for the

business environment:

Table 15: Test of Business Environment Validity (ENV):

KMO and Bartlett's Test	Item Question	Loading Factor	Cumulative %
		Component 1	
0.613	DYN	0.684	57.495
	CMP	0.823	
	HOS	0.761	

From table 15, we can see that the KMO and Bartlett's Test for ENV is 0.613. DYN, CMP, and HOS generated a loading factor of 0.684, 0.823, and 0.761, respectively. These numbers are above 0.4 which shows they are significant. Also, the cumulative percentage for ENV is 57.495 which is greater than 50% which shows it is significant.

3.11.2.2 Generic Strategy (GEN)

Next, our second variable is the generic strategy. This entity contains three dimensions which are CLS, DIF, and FOC.

Factor Analysis steps were conducted for cost leadership strategy using SPSS. Items 4, 5, 6, 7, and 8 were used that fall under CLS. The below tables are generated:

Table 16: Descriptive Statistics for Cost Leadership Strategy

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
CLS4	3.47	.924	51

CLS5	3.69	.948	51
CLS6	3.92	.913	51
CLS7	4.14	.960	51
CLS8	3.75	1.055	51

From table 16, the mean, standard deviation, and analysis are shown for each CLS item. CLS 4, CLS 5, CLS 6, CLS 7, and CLS 8 have a mean of 3.47, 3.69, 3.92, 4.14, and 3.75, respectively. CLS 4, CLS 5, CLS 6, CLS 7, and CLS 8 have a standard deviation of 0.924, 0.948, 0.913, 0.960, and 1.055, respectively. All CLS items have the same analysis N of 51.

Table 17: KMO and Bartlett's Test for Cost Leadership Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.700
Bartlett's Test of Sphericity	Approx. Chi-Square	59.227
	Df	10
	Sig.	.000

In table 17, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for CLS is 0.7 and shows a significance level of 0.000.

Table 18: Component Matrix for Cost Leadership Strategy

Component Matrix	
	Component
	1
CLS4	0.607
CLS5	0.743
CLS6	0.77

CLS7	0.646
CLS8	0.788
Extraction Method: Principal Component Analysis.	

In table 18, the component matrix is produced for each CLS item. CLS 4, CLS 5, CLS 6, CLS 7, and CLS 8 have a component matrix value of 0.607, 0.743, 0.77, 0.646, and 0.788, respectively. Since all these values are above 0.4, then these items are significant.

Table 19: Total Variance Explained for Cost Leadership Strategy

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.552	51.035	51.035

Extraction Method: Principal Component Analysis.

In table 19, the CLS's cumulative percentage is 51.035%, which is more than 50%, hence helping us to check and confirm that CLS is a reliable measure in our analysis.

Similarly, factor Analysis steps were conducted for differentiation strategy using SPSS. Items 1, 2, 3, 5, and 6 were used that fall under DIF. The below tables are generated:

Table 20: Descriptive Statistics for Differentiation Strategy

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
DIF1	3.94	.881	51
DIF2	4.08	.796	51
DIF3	3.67	1.244	51
DIF5	3.82	.994	51
DIF6	3.94	.925	51

From table 20, the mean, standard deviation, and analysis are shown for each DIF item. DIF 1, DIF 2, DIF 3, DIF 5, and DIF 6 have a mean of 3.94, 4.08, 3.67, 3.82, and 3.94, respectively. DIF 1, DIF 2, DIF 3, DIF 5, and DIF 6 have a standard deviation of 0.881, 0.796, 1.244, 0.994, and 0.925, respectively. All DIF items have the same analysis N of 51.

Table 21: KMO and Bartlett's Test for Differentiation Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.699
Bartlett's Test of Sphericity	Approx. Chi-Square	79.999
	Df	10
	Sig.	.000

In table 21, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for DIF is 0.699 and shows a significance level of 0.000.

Table 22: Component Matrix for Differentiation Strategy

Component Matrix	
	Component
	1
DIF1	0.561
DIF2	0.787
DIF3	0.851
DIF5	0.678
DIF6	0.78
Extraction Method: Principal Component Analysis.	

In table 22, the component matrix is produced for each DIF item. DIF 1, DIF 2, DIF 3, DIF 5, and DIF 6 have a component matrix value of 0.561, 0.787, 0.851, 0.678, and 0.78, respectively. Since all these values are above 0.4, then these items are significant.

Table 23: Total Variance Explained for Differentiation Strategy

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.727	54.546	54.546

Extraction Method: Principal Component Analysis.

In table 23, the DIF's cumulative percentage is 54.546%, which is more than 50%, hence helping us to check and confirm that DIF is a reliable measure in our analysis. Factor Analysis steps were conducted for focus strategy using SPSS. Items 1, 2, 3, and 5 were used that fall under FOC. The below tables are generated:

Table 24: Descriptive Statistics for Focus Strategy

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
FOC1	3.80	.872	51
FOC2	4.00	.917	51
FOC3	4.06	.904	51
FOC5	3.92	.977	51

From table 24, the mean, standard deviation, and analysis are shown for each FOC item. FOC 1, FOC 2, FOC 3, and FOC 5 have a mean of 3.8, 4, 4.06, and 3.92, respectively. FOC 1, FOC 2, FOC 3, and FOC 5 have a standard deviation of 0.872, 0.917, 0.904, and 0.977, respectively. All FOC items have the same analysis N of 51.

Table 25: KMO and Bartlett's Test for Focus Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.736
Bartlett's Test of Sphericity	Approx. Chi-Square	56.757
	Df	6
	Sig.	.000

In table 25, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for FOC is 0.736 and shows a significance level of 0.000.

Table 26: Component Matrix for Focus Strategy

Component Matrix	
	Component
	1
FOC1	0.753
FOC2	0.861
FOC3	0.719
FOC5	0.779
Extraction Method: Principal Component Analysis.	

In table 26, the component matrix is produced for each item. FOC 1, FOC 2, FOC 3, and FOC 5 have a component matrix value of 0.753, 0.861, 0.719, and 0.779, respectively. Since all these values are above 0.4, then these items are significant.

Table 27: Total Variance Explained for Focus Strategy

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.434	60.846	60.846

Extraction Method: Principal Component Analysis.

In table 27, the FOC's cumulative percentage is 60.846%, which is more than 50%, hence helping us to check and confirm that FOC is a reliable measure in our analysis. From the above analysis of the Generic strategy dimensions, we can run factor analysis that involves these three dimensions. The below table is generated for generic strategies:

Table 28: Test of Generic Strategy Validity (GEN):

KMO and Bartlett's Test	Item Question	Loading Factor	Cumulative %
		Component 1	
0.707	CLS	0.83	75.945
	DIF	0.899	
	FOC	0.883	

From the above table, we can see that the KMO and Bartlett's Test for GEN is 0.707. CLS, DIF, and FOC generated a loading factor of 0.83, 0.899, and 0.883, respectively. These numbers are above 0.4 which shows they are significant. Also, the cumulative percentage for GEN is 75.945 which is greater than 50% which shows it is significant.

3.11.2.3 Operations Strategy (OPP)

Operations strategy contain four dimensions which are low-cost, delivery, flexibility, and quality strategies.

Factor Analysis steps were conducted for low-cost strategy using SPSS. Items 4 and 5 falls under LCS. The below tables are generated:

Table 29: Descriptive Statistics for Low-Cost Strategy

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LCS4	3.92	1.074	51
LCS5	3.86	.849	51

From table 29, the mean, standard deviation, and analysis are shown for each LCS item. LCS 4 and LCS 5 have a mean of 3.92 and 3.86, respectively. LCS 4 and LCS 5 have a standard deviation of 1.074 and 0.849, respectively. All LCS items have the same analysis N of 51.

Table 30: KMO and Bartlett's Test for Low-Cost Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	21.832
	df	1
	Sig.	.000

In table 30, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for LCS is 0.5 and shows a significance level of 0.000.

Table 31: Component Matrix for Low-Cost Strategy

Component Matrix	
	Component
	1
LCS4	0.895
LCS5	0.895
Extraction Method: Principal Component Analysis.	

In table 31, the component matrix is produced for each item. Both LCS 4 and LCS 5 have a component matrix value of 0.895. Since these values are above 0.4, then these items are significant.

Table 32: Total Variance Explained for Low-Cost Strategy

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	1.602	80.103	80.103

Extraction Method: Principal Component Analysis.

In table 32, the LCS's cumulative percentage is 80.103%, which is more than 50%, hence helping us to check and confirm that LCS is a reliable measure in our analysis. Similarly, factor Analysis steps were conducted for quality strategy using SPSS. Items 1, 2, 3, and 5 falls under QTY. The below tables are generated:

Table 33: Descriptive Statistics for Quality Strategy

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
QTY1	3.96	.958	51
QTY2	4.24	.907	51
QTY3	4.31	.547	51
QTY5	3.96	.979	51

From table 33, the mean, standard deviation, and analysis are shown for each QTY 1, QTY 2, QTY 3, and QTY 5 have a mean of 3.96, 4.24, 4.31, and 3.96, respectively. QTY 1, QTY 2, QTY 3, and QTY 5 have a standard deviation of 0.958, 0.907, 0.547,

and 0.979, respectively. All QTY items have the same analysis N of 51.

Table 34: KMO and Bartlett's Test for Quality Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.750
Bartlett's Test of Sphericity	Approx. Chi-Square	61.439
	Df	6
	Sig.	.000

In table 34, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for QTY is 0.75 and shows a significance level of 0.000.

Table 35: Component Matrix for Quality Strategy

Component Matrix	
	Component
	1
QTY1	0.873
QTY2	0.855
QTY3	0.772
QTY5	0.592
Extraction Method: Principal Component Analysis.	

In table 35, the component matrix is produced for each item. QTY 1, QTY 2, QTY 3, and QTY 5 have a component matrix values of 0.873, 0.855, 0.772, and 0.592, respectively. Since these values are above 0.4, then these items are significant.

Table 36: Total Variance Explained for Quality Strategy

Total Variance Explained

Component	Extraction Sums of Squared Loadings

	Total	% of Variance	Cumulative %
1	2.438	60.958	60.958

Extraction Method: Principal Component Analysis.

In table 36, the QTY's cumulative percentage is 60.958%, which is more than 50%, hence helping us to check and confirm that QTY is a reliable measure in our analysis. Factor Analysis steps were conducted for delivery strategy using SPSS. Items 1, 2, 3,4, and 5 falls under DEL. The below tables are generated:

Table 37: Descriptive Statistics for Delivery Strategy

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
DEL1	3.94	.881	51
DEL2	4.20	.849	51
DEL3	4.14	.960	51
DEL4	3.76	.971	51
DEL5	3.78	1.026	51

From table 37, the mean, standard deviation, and analysis are shown for each DEL 1, DEL 2, DEL 3, DEL 4, and DEL 5 have a mean of 3.94, 4.2, 4.14, 3.76, and 3.78, respectively. DEL 1, DEL 2, DEL 3, DEL 4, and DEL 5 have a standard deviation of 0.881, 0.849, 0.96, 0.971, and 1.026, respectively. All DEL items have the same analysis N of 51.

Table 38: KMO and Bartlett's Test for Delivery Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.745
Bartlett's Test of Sphericity	Approx. Chi-Square	69.606
	df	10

Sig.	.000

In table 38, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for DEL is 0.745 and shows a significance level of 0.000.

Table 39: Component Matrix for Delivery Strategy

Component Matrix	
	Component
	1
DEL1	0.69
DEL2	0.715
DEL3	0.719
DEL4	0.755
DEL5	0.814
Extraction Method: Principal Component Analysis.	

In table 39, the component matrix is produced for each item. DEL 1, DEL 2, DEL 3, DEL 4, and DEL 5 have a component matrix values of 0.69, 0.715, 0.719, 0.755, and 0.814, respectively. Since these values are above 0.4, then these items are significant.

Table 40: Total Variance Explained for Delivery Strategy

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.737	54.736	54.736

Extraction Method: Principal Component Analysis.

In table 40, DEL's cumulative percentage is 54.736%, which is more than 50%, hence helping us to check and confirm that DEL is a reliable measure in our analysis.

Factor Analysis steps were conducted for flexibility strategy using SPSS. Items 1, 2, 3,4, and 5 falls under FLX. The below tables are generated:

Table 41: Descriptive Statistics for Flexibility Strategy

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
FLX1	3.59	1.043	51
FLX2	3.69	1.086	51
FLX3	3.61	1.168	51
FLX4	3.90	1.005	51
FLX5	3.90	1.100	51

From table 41, the mean, standard deviation, and analysis are shown for each FLX item. FLX1, FLX 2, FLX 3, FLX 4, and FLX 5 have a mean of 3.59, 3.69, 3.61, 3.9, and 3.9, respectively. FLX 1, FLX 2, FLX 3, FLX 4, and FLX 5 have a standard deviation of 1.043, 1.086, 1.168, 1.005, and 1.1, respectively. All FLX items have the same analysis N of 51.

Table 42: KMO and Bartlett's Test for Flexibility Strategy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.819
Bartlett's Test of Sphericity	Approx. Chi-Square	118.436
	Df	10
	Sig.	.000

In table 42, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for FLX is 0.819 and shows a significance level of 0.000.

Table 43: Component Matrix for Flexibility Strategy

Component Matrix	
	Component
	1
FLX1	0.811
FLX2	0.843
FLX3	0.84
FLX4	0.717
FLX5	0.838
Extraction Method: Principal Component Analysis.	

In table 43, the component matrix is produced for each item. FLX1, FLX 2, FLX 3, FLX 4, and FLX 5 have a component matrix values of 0.811, 0.843, 0.84, 0.717, and 0.838, respectively. Since these values are above 0.4, then these items are significant.

Table 44: Total Variance Explained by Flexibility Strategy

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	3.289	65.783	65.783

Extraction Method: Principal Component Analysis.

In table 44, FLX's cumulative percentage is 65.783%, which is more than 50%, hence helping us to check and confirm that FLX is a reliable measure in our analysis. From the above analysis of the Operation strategy dimensions, we can run factor analysis that involves these four dimensions. The below table is generated for operations strategy:

Table 45: Test of Operations Strategy Validity (OPP):

KMO and Bartlett's	Item	Loading	Cumulative

Test	Question	Factor	%
		Component 1	
0.686	LCS	0.703	63.892
	QTY	0.881	
	DEL	0.887	
	FLX	0.706	

From table 45, we can see that the KMO and Bartlett's Test for OPP is 0.686. LCS, QTY, DEL, and FLX generated a loading factor of 0.703, 0.881, 0.887, and 0.706, respectively. These numbers are above 0.4 which shows they are significant. Also, the cumulative percentage for OPP is 63.892 which is greater than 50% which shows it is significant.

3.11.2.4 Business Performance (PER)

Our last variable that we will tackle is the business performance. This entity holds two dimensions which are financial and non-financial performance.

Factor Analysis steps were conducted for financial performance using SPSS. Items 1, 2, 3,4, and 5 falls under FIN. The below tables are generated:

Table 46: Descriptive Statistics for Financial Performance

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
FIN1	3.41	.898	51
FIN2	3.49	.857	51
FIN3	3.35	.744	51
FIN4	3.45	.757	51
FIN5	3.37	.692	51

From table 46, the mean, standard deviation, and analysis are shown for each FIN item. FIN 1, FIN 2, FIN 3, FIN 4, and FIN 5 have a mean of 3.41, 3.49, 3.35, 3.45, and 3.37, respectively. FIN 1, FIN 2, FIN 3, FIN 4, and FIN 5 have a standard deviation of 0.898, 0.857, 0.744, 0.757, and 0.692, respectively. All FIN items have the same analysis N of 51.

Table 47: KMO and Bartlett's Test for Financial Performance

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.772
Bartlett's Test of Sphericity	Approx. Chi-Square	179.756
	Df	10
	Sig.	.000

In table 47, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for FIN is 0.772 and shows a significance level of 0.000.

Table 48: Component Matrix for Financial Performance

	Component
	1
FIN1	0.864
FIN2	0.839
FIN3	0.735
FIN4	0.844
FIN5	0.905
Extraction Method: Principal Component Analysis.	

In table 48, the component matrix is produced for each item. FIN 1, FIN 2, FIN 3, FIN 4, and FIN 5 have a component matrix values of 0.864, 0.839, 0.735, 0.844, and 0.905,

respectively. Since these values are above 0.4, then these items are significant.

Table 49: Total Variance Explained by Financial Performance

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	3.522	70.438	70.438

Extraction Method: Principal Component Analysis.

In table 49, FIN's cumulative percentage is 70.438%, which is more than 50%, hence helping us to check and confirm that FIN is a reliable measure in our analysis. Similarly, Factor Analysis steps were conducted for non-financial performance using SPSS. Items 1, 2, 3,4, and 5 falls under NFIN. The below tables are generated:

Table 50: Descriptive Statistics for Non-Financial Performance

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
NFIN1	3.90	.831	51
NFIN2	3.59	.942	51
NFIN3	3.31	1.029	51
NFIN4	3.49	.857	51
NFIN5	3.22	1.026	51

From table 50, the mean, standard deviation, and analysis are shown for each NFIN item. NFIN 1, NFIN 2, NFIN 3, NFIN 4, and NFIN 5 have a mean of 3.9, 3.59, 3.31, 3.49, and 3.22, respectively. NFIN 1, NFIN 2, NFIN 3, NFIN 4, and NFIN 5 have a standard deviation of 0.831, 0.942, 1.029, 0.857, and 1.026, respectively. All NFIN items have the same analysis N of 51.

Table 51: KMO and Bartlett's Test for Non-Financial Performance

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.715
Bartlett's Test of Sphericity	Approx. Chi-Square	92.797
	Df	10
	Sig.	.000

In table 51, KMO and Bartlett's test is produced. The KMO and Bartlett's Test for NFIN is 0.715 and shows a significance level of 0.000.

Table 52: Component Matrix for Non-Financial Performance

	Component
	1
NFIN1	0.751
NFIN2	0.79
NFIN3	0.856
NFIN4	0.58
NFIN5	0.781
Extraction Method: Principal Component Analysis.	

In table 52, the component matrix is produced for each item. NFIN 1, NFIN 2, NFIN 3, NFIN 4, and NFIN 5 have a component matrix values of 0.751, 0.79, 0.856, 0.58, and 0.781, respectively. Since these values are above 0.4, then these items are significant.

Table 53: Total Variance Explained by Non-Financial Performance

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %

1	2.867	57.348	57.348

Extraction Method: Principal Component Analysis.

In table 53, NFIN's cumulative percentage is 57.348%, which is more than 50%, hence helping us to check and confirm that NFIN is a reliable measure in our analysis.

From the above analysis of the Business Performance dimensions, we can run factor analysis that involves these two dimensions. The below table is generated for Business Performance:

Table 54: Test of Business Performance Validity (PER)

KMO and Bartlett's Test	Item Question	Loading Factor Component 1	Cumulative %
0.5	FIN	0.883	78.039
	NFIN	0.883	

From table 54, we can see that the KMO and Bartlett's Test for PER is 0.5. FIN and NFIN both generated a loading factor of 0.883. These numbers are above 0.4 which shows they are significant. Also, the cumulative percentage for PER is 78.039 which is greater than 50% which shows it is significant.

Therefore, from the above factor analysis results, we can see that each item gave significant result. Hence, we can proceed to make further analysis and test our hypotheses which we are going to test in chapter 4.

3.12 Statistical Analysis for Demographic Variables

To find out the basic features of the population data and make sure the data is ready for advanced statistical analysis such as hypothesis testing, path analysis, and multi-group analysis, we utilized Statistical Package for Social Science (SPSS) for conducting descriptive analysis.

Our data consist of employees and managers working in different industries and different locations in Lebanon. Since we chose employees from different industries, in an emerging country like Lebanon, it would be interesting to see how the variables interact in this model. Data was collected from 1/30/2021 till 2/8/2021. The questionnaire was randomly sent utilizing emails and WhatsApp to graduate people and who are working in different industries in Lebanon. Therefore, the exact number of receivers could not be measured accurately. The total number of collected responses was 60. However, one participant did not want to participate, and seven participants stated that they were graduates but did not work so their response was removed. In addition, one participant stated that he works abroad, so we tried to focus our study only in Lebanon. Therefore, the data of 51 responses were inserted into SPSS Software, and analysis was conducted correspondingly. In our study the demographic variables are the following: Gender, Age, City of Residence, Level of Education, Work in industry, and the Role in the organization.

3.12.1 Gender

To observe our demographic variables, we utilized SPSS to analyze the data better. Our first variable that we will analyze is Gender.

Table 55: Gender Distribution

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	27	52.9	52.9	52.9
	Male	24	47.1	47.1	100.0
	Total	51	100.0	100.0	

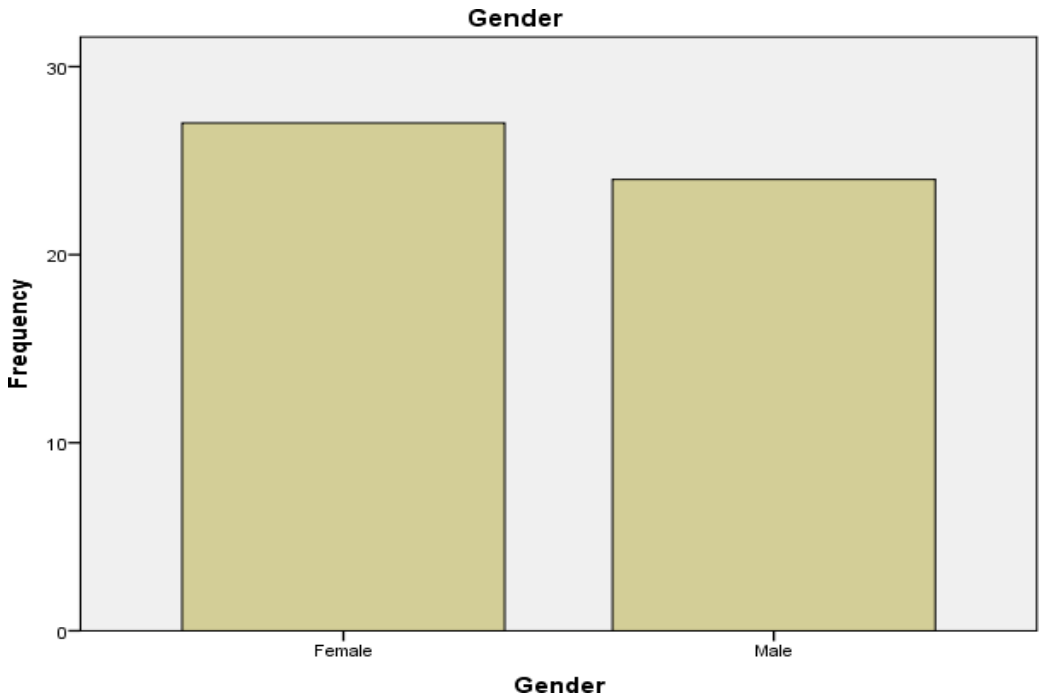

Figure 2: Gender Distribution

From table 55 and figure 2, we can see that the sample consists of 51 individuals, where 27 are females (52.9%), and 24 are males (47.1%).

3.12.2 Age

Our next demographic variable is age. Using SPSS, we will have the following results:

Table 56: Age Distribution

Age		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	25	49.0	49.0	49.0
	26-30	16	31.4	31.4	80.4
	>30	10	19.6	19.6	100.0
	Total	51	100.0	100.0	

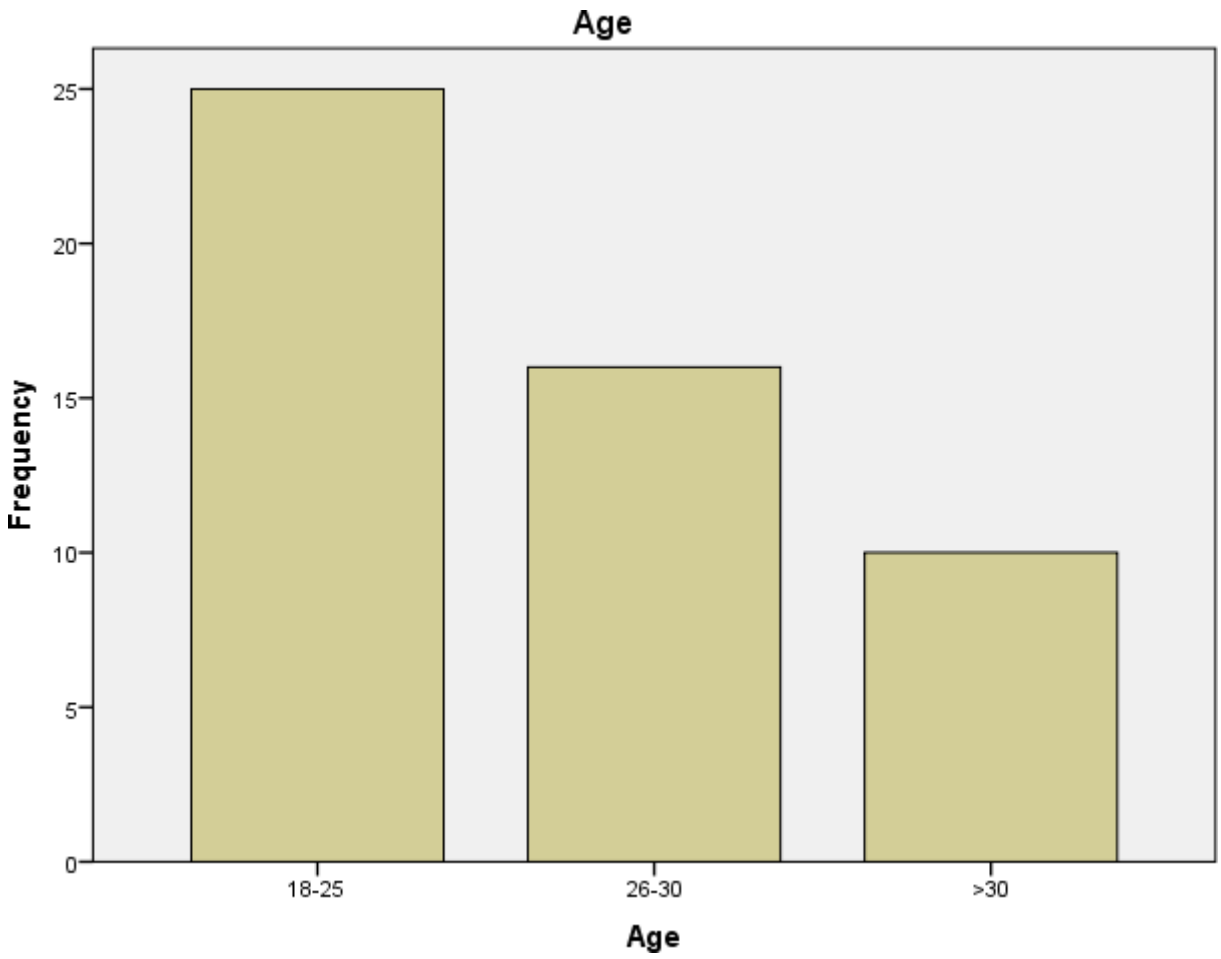

Figure 3: Age Distribution

From table 56 and figure 3, we can see that 25 participants are between 18-25 years, 16

participants are between 26-30 years, and more than 30 participants are above the age of 30. Hence, most participants are between 18-25 years (49%), followed by 26-30 years (31.4%), and then participants that age more than 30 (19.6%).

3.12.3 City of Residence

Then, we will observe the city of residence for the participants. Using SPSS, we will have the following results:

Table 57: City of Residence Distribution

City of Residence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Baalbeck	3	5.9	5.9	5.9
	Barelies	1	2.0	2.0	7.8
	Beirut	26	51.0	51.0	58.8
	Bekaa	2	3.9	3.9	62.7
	Dhour El Choueir	1	2.0	2.0	64.7
	Jbeil	1	2.0	2.0	66.7
	Jebjannine	1	2.0	2.0	68.6
	Kab-Elias	1	2.0	2.0	70.6
	Kfarkela	1	2.0	2.0	72.5
	N/A	2	3.9	3.9	76.5
	Mansourieh	1	2.0	2.0	78.4
	Mount Lebanon	2	3.9	3.9	82.4
	South Lebanon	4	7.8	7.8	90.2
	Tripoli	2	3.9	3.9	94.1
	Wadi Chahrour	1	2.0	2.0	96.1
	Zahleh	2	3.9	3.9	100.0
	Total	51	100.0	100.0	

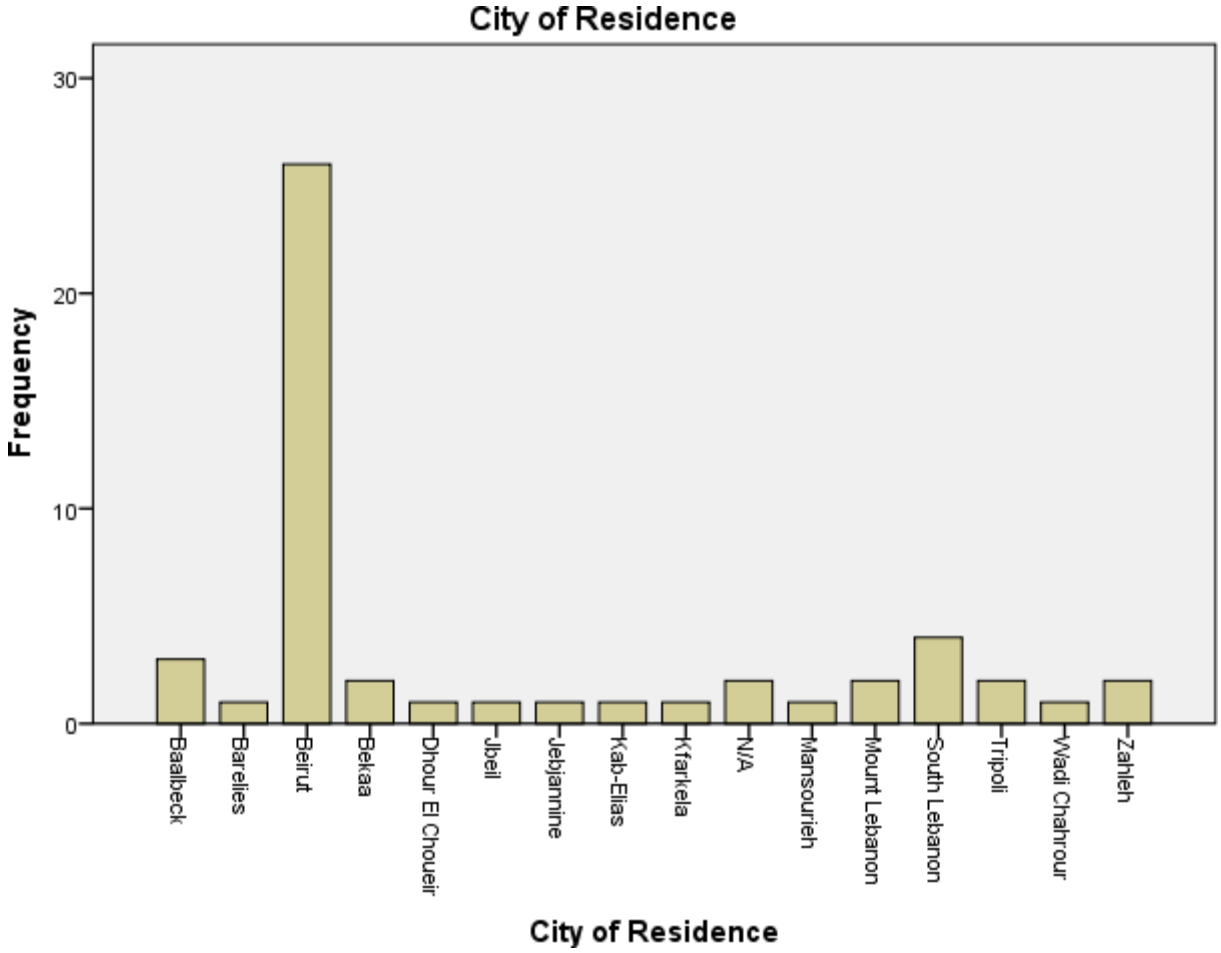

Figure 4: City of Residence Distribution

From table 57 and figure 4, we can see that the participants are spread across different locations in Lebanon. Most participants are working in Beirut, the capital of Lebanon (26%), followed by Baalbeck (3%). The third place goes to Zahelh, Tripoli, Mount Lebanon, and Bekaa where all have the same percentage (2%). Also, we note that two participants did not like to reveal their location work which also holds 2%. Other locations fall in the last place which are Wadi Chahrour, Mansourieh, Kfarkela, Kab Elias, Jebjannine, Jbeil, Dhour El Choueir, and Barelies (1%).

3.12.4 Degree of Education

Then, we will observe the level of education for the participants. Also using SPSS, we will have the following results:

Table 58: Degree of Education Distribution

Highest Degree of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's degree	31	60.8	60.8	60.8
	Doctorate degree	1	2.0	2.0	62.7
	Master's degree	19	37.3	37.3	100.0
	Total	51	100.0	100.0	

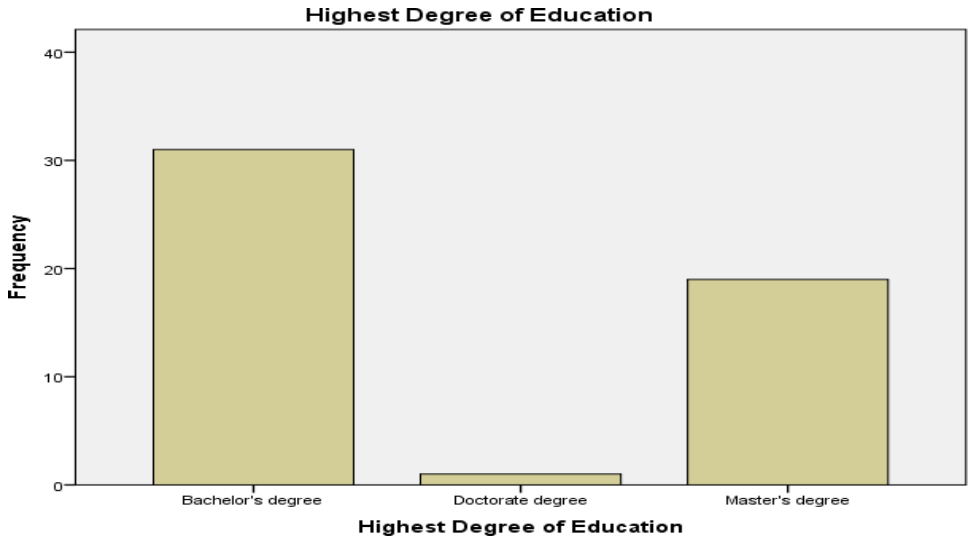

Figure 5: Degree of Education Distribution

From table 58 and figure 5, we can see that most of the participants (31) at least have bachelor's degree 60.8%). Also, 19 participants have master's degree (37.3%). Only one participant has Doctorate degree (2%).

3.12.5 Work Industry

Using SPSS, we obtained the following results for the work industry for our participants:

Table 59: Work Industry Distribution

Work Industry

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Amana	1	2.0	2.0	2.0
	Architecture and interior design	1	2.0	2.0	3.9
	Banking	1	2.0	2.0	5.9
	Business	2	3.9	3.9	9.8
	Clothes	3	5.9	5.9	15.7
	Construction	1	2.0	2.0	17.6
	Consulting	2	3.9	3.9	21.6
	Customer service	1	2.0	2.0	23.5
	Digital advertising	1	2.0	2.0	25.5
	Education	1	2.0	2.0	27.5
	Electronic products	1	2.0	2.0	29.4
	Electronics	4	7.8	7.8	37.3
	Engineering	1	2.0	2.0	39.2
	Fashion and Retail	1	2.0	2.0	41.2
	Finance	1	2.0	2.0	43.1
	Food	4	7.8	7.8	51.0
	Food Industry	1	2.0	2.0	52.9
	General Manager	1	2.0	2.0	54.9
	Health	1	2.0	2.0	56.9
	Hotel	2	3.9	3.9	60.8
	IT	2	3.9	3.9	64.7
	Law	1	2.0	2.0	66.7
	Manufacturing	3	5.9	5.9	72.5
	Mechanical Engineering	2	3.9	3.9	76.5
	Medicine	1	2.0	2.0	78.4
	Online application	1	2.0	2.0	80.4

Pharmacy	3	5.9	5.9	86.3
Property consultancy	2	3.9	3.9	90.2
Restaurant	1	2.0	2.0	92.2
Retail	1	2.0	2.0	94.1
Social Media	2	3.9	3.9	98.0
Technology	1	2.0	2.0	100.0
Total	51	100.0	100.0	

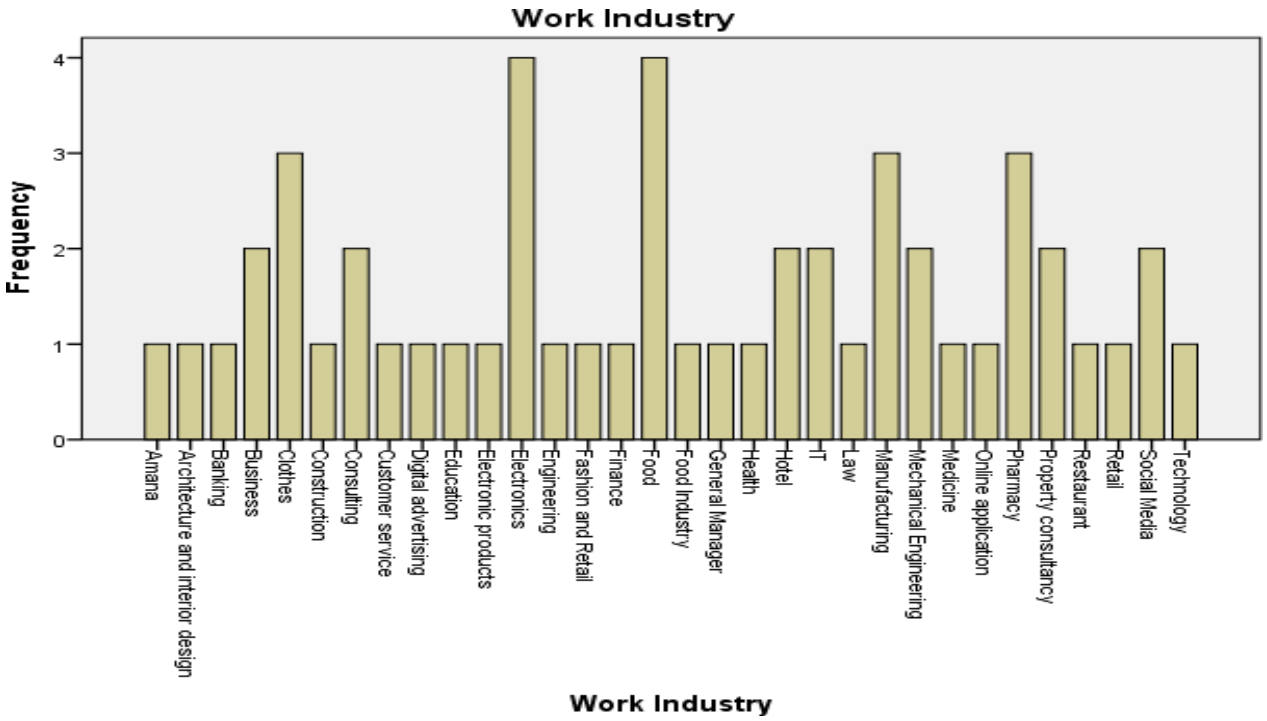

Figure 6: Work Industry Distribution

From table 59 and figure 6, we can see how our participants are well diversified in each industry. We observe that most of the participants work in electronics and food (4 participants each, making 7%), then in clothes, manufacturing, and pharmacies (3 participants each, making 5.9%), followed by social media, property consultancy, mechanical engineering, IT, Hotels, Consulting, and in Businesses (2 participants each,

making 3.9%). In the last place comes technology, retails, restaurants, online applications, medicines, Low, health, general managers, food industry, finance, fashion and retail, engineering, electronic products, education, digital advertisements, customer services, construction, banking, architecture and interior design, and Amana (1 participant each, making 2%).

3.12.6 Role in Company

Using SPSS, we observed the different roles for our participants in their respective industries:

Table 60: Role in the Company Distribution

Role in Company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accountant- Analyst	1	2.0	2.0	2.0
	Accounts executive	1	2.0	2.0	3.9
	Chief	2	3.9	3.9	7.8
	Consultant	1	2.0	2.0	9.8
	Content creator	2	3.9	3.9	13.7
	CSR	1	2.0	2.0	15.7
	Customer service	2	3.9	3.9	19.6
	Customer service and registration	1	2.0	2.0	21.6
	Customer Services	1	2.0	2.0	23.5
	Data analyst	1	2.0	2.0	25.5
	Digital account executive	1	2.0	2.0	27.5
	Engineer	2	3.9	3.9	31.4
	Finance	1	2.0	2.0	33.3

financial manager	1	2.0	2.0	35.3
Founder	1	2.0	2.0	37.3
Hospitality Manager	1	2.0	2.0	39.2
Hotel	1	2.0	2.0	41.2
Interior architect	1	2.0	2.0	43.1
IT manager and technical support	1	2.0	2.0	45.1
IT Support	1	2.0	2.0	47.1
Manager	6	11.8	11.8	58.8
Operational Manager	3	5.9	5.9	64.7
Organizational Consulting	1	2.0	2.0	66.7
Paralegal	1	2.0	2.0	68.6
Products management	1	2.0	2.0	70.6
Registered nurse	1	2.0	2.0	72.5
Research	1	2.0	2.0	74.5
Research assistant	1	2.0	2.0	76.5
Retailer	3	5.9	5.9	82.4
Sales and logistics	1	2.0	2.0	84.3
Sales representative	1	2.0	2.0	86.3
Self employed	1	2.0	2.0	88.2
Supplier	1	2.0	2.0	90.2
Supply chain manager	4	7.8	7.8	98.0
Training pharmacist	1	2.0	2.0	100.0
Total	51	100.0	100.0	

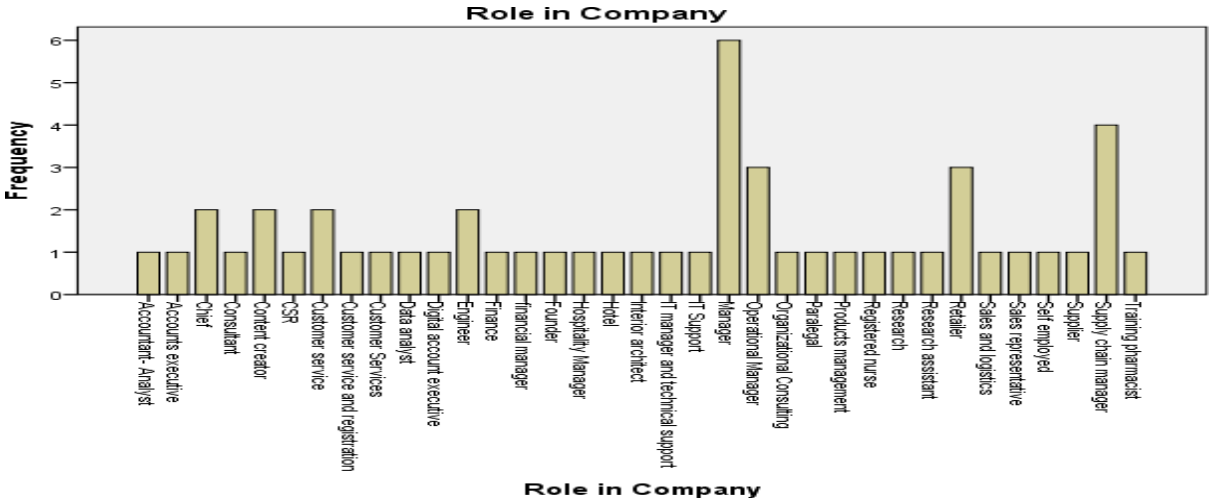

Figure 7: Role in the Company Distribution

From table 60 and figure 7, we can see that most of the participants are managers (6 participants each, making 11.8%), which is followed by supply chain managers (4 participants each, making 7.8%), and then by retailers and operation managers (3 participants each, making 5.9% each). Then we have chief, content creator, customer service, and engineer (2 participants in each role making 3.9% each). In the last group falls training pharmacist, supplier, self-employed, sales representative, sales and logistics, research assistant, research, registered nurse, products management, paralegal, organizational consulting, IT support, IT manager and technical support, interior architect, hospitality manager, founder, financial manager, finance, digital account executive, data analyst, customer service, customer service and registration, CSR, consultant, account-executive, and account-analyst (1 participant each, making 2%).

Chapter 4

Research Findings

4.1 Introduction

In this part, we will start by observing the hypothesis to be tested. We will observe the direct effect between each variable with their dimensions. Then, we will make a mediation analysis. We will be using the SPSS software to see the direct effect and mediation between the variables in our study. In the mediation analysis, we will also make a “Process” analysis to verify our mediation significance. Ten hypotheses will be tested in this study, and they are stated in the next part.

4.2 Hypothesis to be Tested

After we generated our reliability and factor analysis tests in chapter 3, and we found that our results were significant, we can now test our hypothesis.

From Ward and Duray (2000) model that we will be selecting for our research study and taking into consideration the new environmental elements (environmental hostility and environmental complexity), and including the focus strategy, 10 hypotheses will be observed. From H1 to H6, we will test the direct effect between two variables. Then, from H7 to H10, we will test the mediation effect where we will use three variables. The hypothesis to be tested are shown in chapter 2, section 2.8.

4.3 Direct Effect

4.3.1 The effect of Business Environment on Business Performance

The first two variables that are going to be tested in our analysis are business environment (independent variable) and business performance (dependent variable). This will be essential to test our first hypothesis (H1). A regression model is constructed using factor scores generated by SPSS. The output is as follows:

Table 61: Model Summary for the relationship between ENV and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.573[a]	.328	.314	.8280

a. Predictors: (Constant), ENV

Table 62: ANOVA for the relationship between ENV and PER

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.410	1	16.410	23.938	.000[b]
	Residual	33.590	49	.686		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), ENV

Table 63: Coefficients for the relationship between ENV and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.619E-017	.116		.000	1.000
	ENV	.573	.117	.573	4.893	.000

a. Dependent Variable: PER

From the tables 61, 62, and 63, we can see that 32.8% of the variability in business performance is explained by the business environment. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.573; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.000 < 0.05), hence there is a significant effect between the dependent variable PER and the independent variable ENV. We can also report that the F-statistics F (1, 49) = 23.938, and the t-statistics t (49) = 4.893, and the p-value = 0.000.

The model confirmed the significance of the relationship as the regression coefficient is 0.573 and the p-value is 0.000. Hence our first hypothesis (H1) is significant.

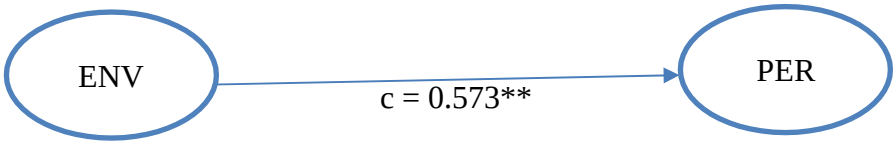

Figure 8: Total effect between ENV and PER

4.3.1.1 Environmental Dynamism on Business Performance

Then, we will study the effect of each business environment dimension on business performance. We will begin with environmental dynamism, then environmental complexity, and later environmental hostility. Similarly, using SPSS, we will have the following tables for environmental dynamism:

Table 64: Model Summary for the relationship between DYN and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.365[a]	.133	.116	.9404

a. Predictors: (Constant), DYNF

Table 65: ANOVA for the relationship between DYN and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.667	1	6.667	7.539	.008[b]
	Residual	43.333	49	.884		
	Total	50.000	50			

a. Dependent Variable: PER
b. Predictors: (Constant), DYNF

Table 66: Coefficients for the relationship between DYN and PER

Coefficients[a]

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.

		B	Std. Error	Beta		
1	(Constant)	-1.606E-016	.132		.000	1.000
	DYNF	.365	.133	.365	2.746	.008

a. Dependent Variable: PER

From the tables above, we can see that 13.3% of the variability in business performance is explained by the environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.365; the beta or the standardized coefficient, and the p-value is 0.008. Because the p-value is less than 0.05 (0.008 < 0.05), hence there is a significant effect between the dependent variable PER and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 7.539, and the t-statistics t (49) = 2.746, and the p-value = 0.008.

The model confirmed the significance of the relationship as the regression coefficient is 0.365 and the p-value is 0.008. Hence, our hypothesis H1 a is significant.

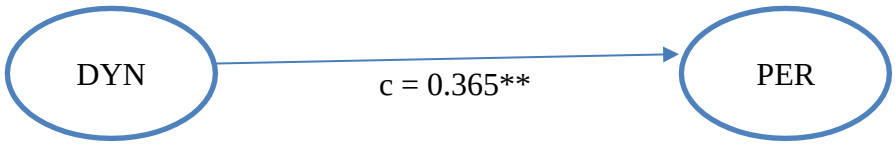

Figure 9: Total Effect between DYN and PER

4.3.1.2 Environmental Complexity on Business Performance

Similarly, using SPSS, environmental complexity and business performance results are generated:

Table 67: Model Summary for the relationship between CMP and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.573[a]	.329	.315	.8277

a. Predictors: (Constant), CMPF

Table 68: ANOVA for the relationship between CMP and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.430	1	16.430	23.983	.000[b]
	Residual	33.570	49	.685		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), CMPF

Table 69: Coefficients for the relationship between CMP and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.744E-017	.116		.000	1.000
	CMPF	.573	.117	.573	4.897	.000

a. Dependent Variable: PER

From the tables 67, 68, and 69, we can see that 32.9% of the variability in business performance is explained by the environmental complexity. Also, the model confirmed

the significance of the relationship as the regression coefficient is 0.573; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.000 < 0.05), hence there is a significant effect between the dependent variable PER and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 23.983, and the t-statistics t (49) = 4.897, and the p-value = 0.000.

The model confirmed the significance of the relationship as the regression coefficient is 0.573 and the p-value is 0.000. Hence, our hypothesis H1 b is significant.

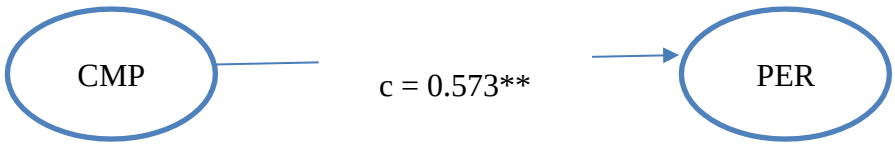

Figure 10: Total effect between CMP and PER

4.3.1.3 Environmental Hostility on Business Performance

Similarly, using SPSS, environmental hostility and business performance results are generated:

Table 70: Model summary for the relationship between HOS and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.350[a]	.123	.105	.9462

a. Predictors: (Constant), HOSF

Table 71: ANOVA for the relationship between HOS and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.127	1	6.127	6.843	.012[b]
	Residual	43.873	49	.895		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), HOSF

Table 72: Coefficients for the relationship between HOS and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.144E-017	.132		.000	1.000
	HOSF	.350	.134	.350	2.616	.012

a. Dependent Variable: PER

From the tables 70, 71, and 71, we can see that 12.3% of the variability in business performance is explained by the environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.350; the beta or the standardized coefficient, and the p-value is 0.012. Because the p-value is less than 0.05 (0.000 < 0.012), hence there is a significant effect between the dependent variable PER and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 6.843, and the t-statistics t (49) = 2.616, and the p-value = 0.012.

The model confirmed the significance of the relationship as the regression coefficient is 0.350 and the p-value is 0.012. Hence, our hypothesis H1 c is significant.

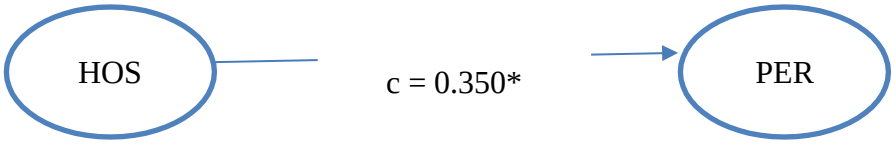

Figure 11: Total effect between HOS and PER

4.3.2 The effect of Business Environment on Generic Strategy

Next, the two variables that are going to be tested in our analysis are business environment (independent variable) and generic strategy (dependent variable). This will be essential to test our second hypothesis (H2). A regression model is constructed using factor scores generated by SPSS. The output between ENV and GEN is as follows:

Table 73: Model Summary for the relationship between ENV and GEN

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.564[a]	.318	.304	.8340

a. Predictors: (Constant), ENV

Table 74: ANOVA for the relationship between ENV and GEN

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.919	1	15.919	22.887	.000[b]
	Residual	34.081	49	.696		

Total	50.000	50			

a. Dependent Variable: GEN
b. Predictors: (Constant), ENV

Table 75: Coefficients for the relationship between ENV and GEN

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-9.110E-017	.117		.000	1.000
	ENV	.564	.118	.564	4.784	.000

a. Dependent Variable: GEN

From the tables 73, 74, and 75, we can see that 31.8% of the variability in generic strategy is explained by the business environment. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.564; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.000 < 0.000), hence there is a significant effect between the dependent variable GEN and the independent variable ENV. We can also report that the F-statistics F (1, 49) = 22.887, and the t-statistics t (49) = 4.784, and the p-value = 0.000.

The model confirmed the significance of the relationship as the regression coefficient is 0.564 and the p-value is 0.000. Hence, our hypothesis H2 is significant.

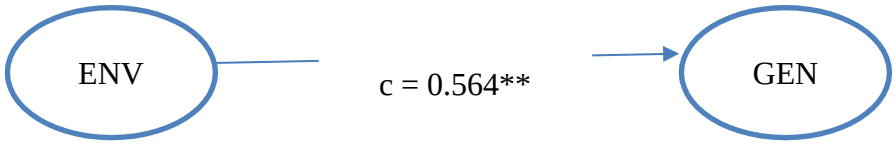

Figure 12: Total Effect between ENV and GEN

4.3.2.1 Environmental Dynamism and Cost Leadership Strategy

Using SPSS, the relation between environmental dynamism and cost leadership strategy are generated below:

Table 76: Model Summary for the relationship between DYN and CLS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.301[a]	.091	.072	.9633

a. Predictors: (Constant), DYNF

Table 77: ANOVA for the relationship between DYN and CLS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.528	1	4.528	4.879	.032[b]
	Residual	45.472	49	.928		
	Total	50.000	50			

a. Dependent Variable: CLSF

b. Predictors: (Constant), DYNF

Table 78: Coefficients for the relationship between DYN and CLS

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		

1	(Constant)	-1.585E-016	.135		.000	1.000
	DYNF	.301	.136	.301	2.209	.032

a. Dependent Variable: CLSF

From tables76, 77, and 78, we can see that 9.1% of the variability in cost leadership strategy is explained by the environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.301; the beta or the standardized coefficient, and the p-value is 0.032. Because the p-value is less than 0.05 (0.000 < 0.032), hence there is a significant effect between the dependent variable CLS and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 4.879, and the t-statistics t (49) = 2.209, and the p-value = 0.032.

The model confirmed the significance of the relationship as the regression coefficient is 0.301 and the p-value is 0.032. Hence, our hypothesis H2 a is significant.

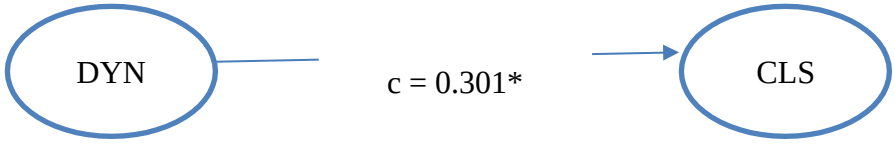

Figure 13: Total Effect between DYN and CLS

4.3.2.2. Environmental Dynamism and Differentiation Strategy

Using SPSS, the relation between environmental dynamism and differentiation strategy are generated below:

Table 79: Model Summary for the relationship between DYN and DIF

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.218[a]	.047	.028	.9859

a. Predictors: (Constant), DYNF

Table 80: ANOVA for the relationship between DYN and DIF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.371	1	2.371	2.439	.125[b]
	Residual	47.629	49	.972		
	Total	50.000	50			

a. Dependent Variable: DIFF

b. Predictors: (Constant), DYNF

Table 81: Coefficients for the relationship between DYN and DIF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.616E-017	.138		.000	1.000
	DYNF	.218	.139	.218	1.562	.125

a. Dependent Variable: DIFF

From tables 79, 80, and 81, we can see that 4.7% of the variability in differentiation strategy is explained by the environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.218; the beta or the

standardized coefficient, and the p-value is 0.125. Because the p-value is more than 0.05 (0.125 > 0.05), hence there is no significant effect between the dependent variable DIF and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 2.439, and the t-statistics t (49) = 1.562, and the p-value = 0.125.

The model does not confirm the significance of the relationship as the regression coefficient is 0.218 and the p-value is 0.125. Hence, our hypothesis H2 b is rejected.

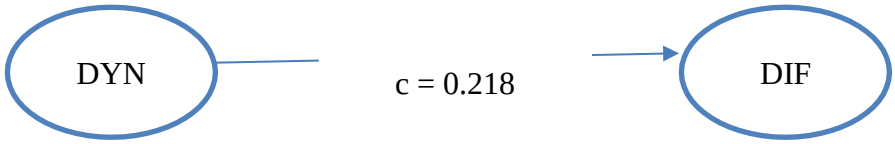

Figure 14: Total effect between DYN and DIF

4.3.2.3 Environmental Dynamism and Focus Strategy

Using SPSS, the relation between environmental dynamism and focus strategy are generated below:

Table 82: Model Summary for the relationship between DYN and FOC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.222[a]	.049	.030	.9850

a. Predictors: (Constant), DYNF

Table 83: ANOVA for the relationship between DYN and FOC

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.459	1	2.459	2.534	.118[b]
	Residual	47.541	49	.970		
	Total	50.000	50			

a. Dependent Variable: FOCF

b. Predictors: (Constant), DYNF

Table 84: Coefficients for the relationship between DYN and FOC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.474E-016	.138		.000	1.000
	DYNF	.222	.139	.222	1.592	.118

a. Dependent Variable: FOCF

From tables 82, 83, and 84, we can see that 4.9% of the variability in focus strategy is explained by the environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.222; the beta or the standardized coefficient, and the p-value is 0.118. Because the p-value is more than 0.05 (0.118 > 0.05), hence there is no significant effect between the dependent variable FOC and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 2.534, and the t-statistics t (49) = 1.592, and the p-value = 0.118.

The model does not confirm the significance of the relationship as the regression coefficient is 0.222 and the p-value is 0.118. Hence, our hypothesis H2 c is rejected.

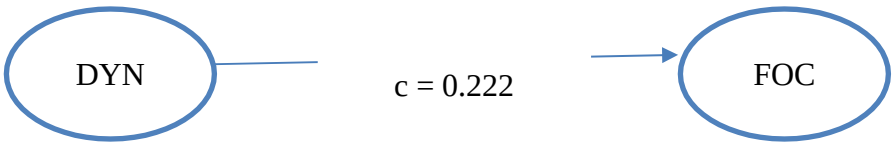

Figure 15: Total effect between DYN and FOC

4.3.2.4 Environmental Complexity and Cost Leadership Strategy

Using SPSS, the relation between environmental complexity and cost leadership strategy are generated below:

Table 85: Model Summary for the relationship between CMP and CLS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.451[a]	.204	.187	.9015

a. Predictors: (Constant), CMPF

Table 86: ANOVA for the relationship between CMP and CLS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.176	1	10.176	12.521	.001[b]
	Residual	39.824	49	.813		
	Total	50.000	50			

a. Dependent Variable: CLSF

b. Predictors: (Constant), CMPF

Table 87: Coefficients for the relationship between CMP and CLS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.559E-017	.126		.000	1.000
	CMPF	.451	.127	.451	3.538	.001

a. Dependent Variable: CLSF

From tables 85, 86, and 87, we can see that 20.4% of the variability in cost leadership strategy is explained by the environmental complexity. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.451; the beta or the standardized coefficient, and the p-value is 0.001. Because the p-value is less than 0.05 (0.05 > 0.001), hence there is a significant effect between the dependent variable CLS and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 12.521, and the t-statistics t (49) = 3.538, and the p-value = 0.001.

The model confirms the significance of the relationship as the regression coefficient is 0.451 and the p-value is 0.001. Hence, our hypothesis H2 d is accepted.

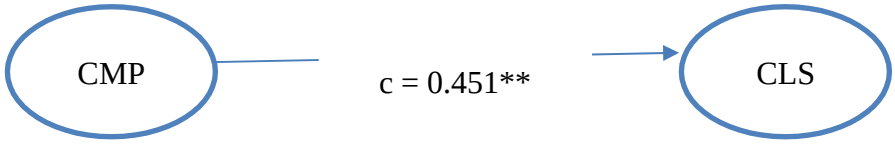

Figure 16: Total effect between CMP and CLS

4.3.2.5 Environmental Complexity and Differentiation Strategy

Using SPSS, the relation between environmental complexity and differentiation strategy are generated below:

Table 88: Model Summary for the relationship between CMP and DIF

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.615[a]	.378	.365	.7968

a. Predictors: (Constant), CMPF

Table 89: ANOVA for the relationship between CMP and DIF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.887	1	18.887	29.745	.000[b]
	Residual	31.113	49	.635		
	Total	50.000	50			

a. Dependent Variable: DIFF
b. Predictors: (Constant), CMPF

Table 90: Coefficients for the relationship between CMP and DIF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.055E-017	.112		.000	1.000
	CMPF	.615	.113	.615	5.454	.000

a. Dependent Variable: DIFF

From tables 88, 89, and 90, we can see that 37.8% of the variability in differentiation strategy is explained by the environmental complexity. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.615; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable DIF and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 29.745, and the t-statistics t (49) = 5.454, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.615 and the p-value is 0.000. Hence, our hypothesis H2 e is accepted.

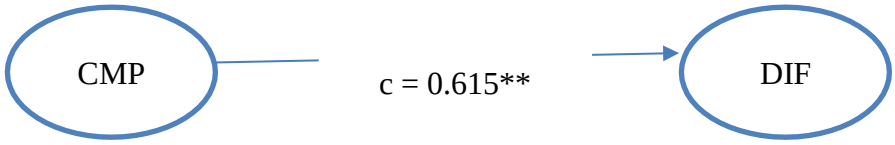

Figure 17: Total effect between CMP and DIF

4.3.2.6 Environmental Complexity and Focus Strategy

Using SPSS, the relation between environmental complexity and focus strategy are generated below:

Table 91: Model Summary for the relationship between CMP and FOC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.491[a]	.241	.225	.8801

a. Predictors: (Constant), CMPF

Table 92: ANOVA for the relationship between CMP and FOC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.046	1	12.046	15.552	.000[b]
	Residual	37.954	49	.775		
	Total	50.000	50			

a. Dependent Variable: FOCF

b. Predictors: (Constant), CMPF

Table 93: Coefficients for the relationship between CMP and FOC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.128E-016	.123		.000	1.000
	CMPF	.491	.124	.491	3.944	.000

a. Dependent Variable: FOCF

From tables 91, 92, and 93, we can see that 24.1% of the variability in focus strategy is explained by the environmental complexity. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.491; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 >

0.000), hence there is a significant effect between the dependent variable FOC and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 15.552, and the t-statistics t (49) = 3.944, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.491 and the p-value is 0.000. Hence, our hypothesis H2 f is accepted.

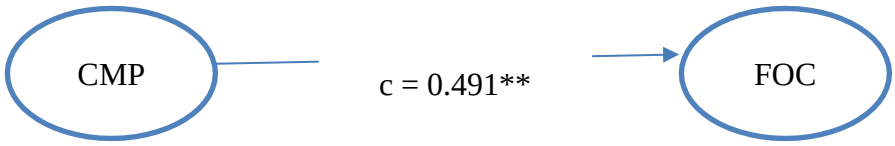

Figure 18: Total Effect between CMP and FOC

4.3.2.7 Environmental Hostility and Cost Leadership Strategy

Using SPSS, the relation between environmental hostility and cost leadership strategy are generated below:

Table 94: Model Summary for the relationship between HOS and CLS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.152[a]	.023	.003	.9984

a. Predictors: (Constant), HOSF

Table 95: ANOVA for the relationship between HOS and CLS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.159	1	1.159	1.162	.286[b]
	Residual	48.841	49	.997		
	Total	50.000	50			

a. Dependent Variable: CLSF
b. Predictors: (Constant), HOSF

Table 96: Coefficients for the relationship between HOS and CLS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.945E-018	.140		.000	1.000
	HOSF	.152	.141	.152	1.078	.286

a. Dependent Variable: CLSF

From tables 94, 95, and 96, we can see that 2.3% of the variability in cost leadership strategy is explained by the environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.152; the beta or the standardized coefficient, and the p-value is 0.286. Because the p-value is more than 0.05 (0.286 > 0.05), hence there is no significant effect between the dependent variable LCS and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 1.162, and the t-statistics t (49) = 1.078, and the p-value = 0.286.

The model does not confirm the significance of the relationship as the regression coefficient is 0.152 and the p-value is 0.286. Hence, our hypothesis H2 g is rejected.

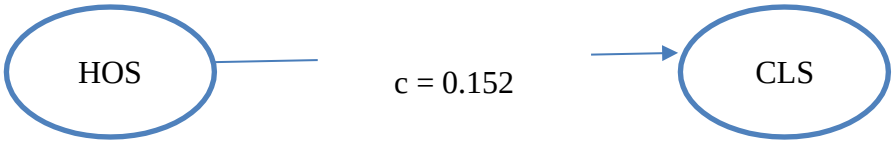

Figure 19: Total effect between HOS and CLS

4.3.2.8 Environmental Hostility and Differentiation Strategy

Using SPSS, the relation between environmental hostility and differentiation strategy are generated below:

Table 97: Model Summary for the relationship between HOS and DIF

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.400[a]	.160	.143	.9259

a. Predictors: (Constant), HOSF

Table 98: ANOVA for the relationship between HOS and DIF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.996	1	7.996	9.328	.004[b]
	Residual	42.004	49	.857		
	Total	50.000	50			

a. Dependent Variable: DIFF
b. Predictors: (Constant), HOSF

Table 99: Coefficients for the relationship between HOS and DIF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.012E-016	.130		.000	1.000
	HOSF	.400	.131	.400	3.054	.004

a. Dependent Variable: DIFF

From tables 97, 98, and 99, we can see that 16% of the variability in differentiation strategy is explained by the environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.4; the beta or the standardized coefficient, and the p-value is 0.004. Because the p-value is less than 0.05 (0.05 > 0.004), hence there is a significant effect between the dependent variable DIF and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 9.328, and the t-statistics t (49) = 3.054, and the p-value = 0.004.

The model confirms the significance of the relationship as the regression coefficient is 0.4 and the p-value is 0.004. Hence, our hypothesis H2 h is accepted.

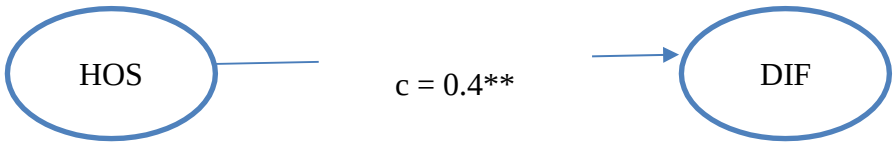

Figure 20: Total effect between HOS and DIF

4.3.2.9 Environmental Hostility and Focus Strategy

Using SPSS, the relation between environmental hostility and focus strategy are generated below:

Table 100: Model Summary for the relationship between HOS and FOC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.429[a]	.184	.167	.9126

a. Predictors: (Constant), HOSF

Table 101: ANOVA for the relationship between HOS and FOC

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.194	1	9.194	11.040	.002[b]
	Residual	40.806	49	.833		
	Total	50.000	50			

a. Dependent Variable: FOCF
b. Predictors: (Constant), HOSF

Table 102: Coefficients for the relationship between HOS and FOC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.324E-016	.128		.000	1.000
	HOSF	.429	.129	.429	3.323	.002

a. Dependent Variable: FOCF

From tables 100, 101, and 102, we can see that 18.4% of the variability in focus strategy is explained by the environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.429; the beta or the standardized coefficient, and the p-value is 0.002. Because the p-value is less than 0.05 (0.05 > 0.002), hence there is a significant effect between the dependent variable FOC and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 11.040, and the t-statistics t (49) = 3.323, and the p-value = 0.002.

The model confirms the significance of the relationship as the regression coefficient is 0.429 and the p-value is 0.002. Hence, our hypothesis H2 i is accepted.

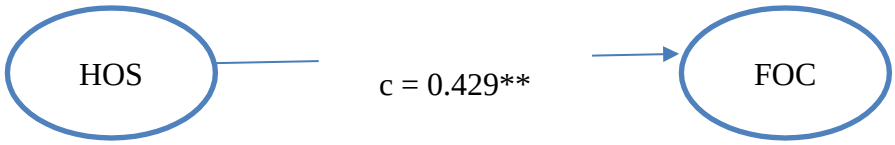

Figure 21: Total effect between HOS and FOC

4.3.3 The effect of Business Environment on Operations Strategy

For the third hypothesis, the two variables that are going to be tested in our analysis are business environment (independent variable) and operations strategy (dependent variable). This will be essential to test our third hypothesis (H3). A regression model is constructed using factor scores generated by SPSS. The output between ENV and OPP is as follows:

Table 103: Model Summary for the relationship between ENV and OPP

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.653[a]	.426	.415	.7651

a. Predictors: (Constant), ENV

Table 104: ANOVA for the relationship between ENV and OPP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.316	1	21.316	36.412	.000[b]
	Residual	28.684	49	.585		
	Total	50.000	50			

a. Dependent Variable: OPP

b. Predictors: (Constant), ENV

Table 105: Coefficients for the relationship between ENV and OPP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.274E-017	.107		.000	1.000
	ENV	.653	.108	.653	6.034	.000

a. Dependent Variable: OPP

From tables 103, 104, and 105, we can see that 42.6% of the variability in operations strategy is explained by the business environment. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.653; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable OPP and the independent variable ENV. We can also report that the F-statistics F (1, 49) = 36.412, and the t-statistics t (49) = 6.034, and the p-value = 0.000. The model confirms the significance of the relationship as the regression coefficient is 0.653 and the p-value is 0.000. Hence, our hypothesis H3 is accepted.

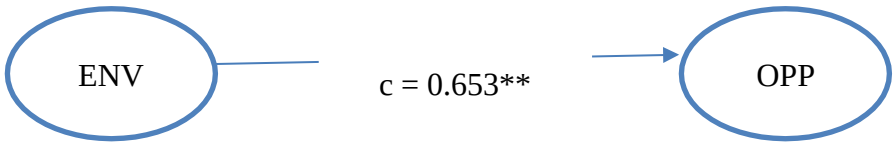

Figure 22: Total effect between ENV and OPP

4.3.3.1 Environmental Dynamism and Low-Cost Strategy

Using SPSS, the relation between environmental dynamism and low-cost strategy are generated below:

Table 106: Model Summary for the relationship between DYN and LCS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.434[a]	.188	.172	.9102

a. Predictors: (Constant), DYNF

Table 107: ANOVA for the relationship between DYN and LCS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.406	1	9.406	11.354	.001[b]
	Residual	40.594	49	.828		
	Total	50.000	50			

a. Dependent Variable: LCSF

b. Predictors: (Constant), DYNF

Table 108: Coefficients for the relationship between DYN and LCS

Coefficients[a]

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.

		B	Std. Error	Beta		
1	(Constant)	-9.930E-017	.127		.000	1.000
	DYNF	.434	.129	.434	3.370	.001

a. Dependent Variable: LCSF

From tables 106, 107, and 108, we can see that 18.8% of the variability in low-cost strategy is explained by the environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.434; the beta or the standardized coefficient, and the p-value is 0.001. Because the p-value is less than 0.05 (0.05 > 0.001), hence there is a significant effect between the dependent variable LCS and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 11.354, and the t-statistics t (49) = 3.37, and the p-value = 0.001.

The model confirms the significance of the relationship as the regression coefficient is 0.434 and the p-value is 0.001. Hence, our hypothesis H3 a is accepted.

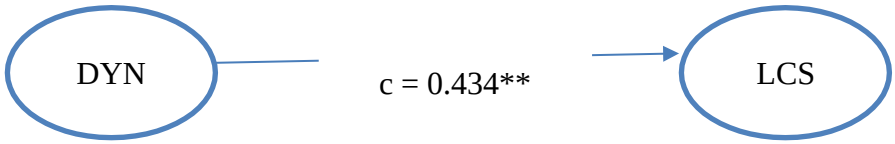

Figure 23: Total effect between DYN and LCS

4.3.3.2 Environmental Dynamism and Quality Strategy

Using SPSS, the relation between environmental dynamism and quality strategy are generated below:

Table 109: Model Summary for the relationship between DYN and QTY

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.338[a]	.114	.096	.9507

a. Predictors: (Constant), DYNF

Table 110: ANOVA for the relationship between DYN and QTY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.715	1	5.715	6.323	.015[b]
	Residual	44.285	49	.904		
	Total	50.000	50			

a. Dependent Variable: QTYF

b. Predictors: (Constant), DYNF

Table 111: Coefficients for the relationship between DYN and QTY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.378E-016	.133		.000	1.000
	DYNF	.338	.134	.338	2.515	.015

a. Dependent Variable: QTYF

From tables 109, 110, and 111, we can see that 11.4% of the variability in quality strategy is explained by the environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.338; the beta or the

standardized coefficient, and the p-value is 0.015. Because the p-value is less than 0.05 (0.05 > 0.015), hence there is a significant effect between the dependent variable QTY and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 6.323, and the t-statistics t (49) = 2.515, and the p-value = 0.015.

The model confirms the significance of the relationship as the regression coefficient is 0.338 and the p-value is 0.015. Hence, our hypothesis H3 b is accepted.

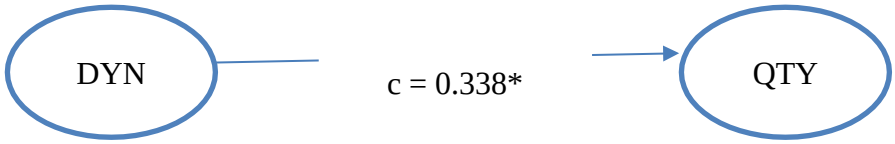

Figure 24: Total effect between DYN and QTY

4.3.3.3 Environmental Dynamism and Delivery Strategy

Using SPSS, the relation between environmental dynamism and delivery strategy are generated below:

Table 112: Model Summary for the relationship between DYN and DEL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.185[a]	.034	.014	.9927

a. Predictors: (Constant), DYNF

Table 113: ANOVA for the relationship between DYN and DEL

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.709	1	1.709	1.734	.194[b]
	Residual	48.291	49	.986		
	Total	50.000	50			

a. Dependent Variable: DELF

b. Predictors: (Constant), DYNF

Table 114: Coefficients for the relationship between DYN and DEL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.197E-016	.139		.000	1.000
	DYNF	.185	.140	.185	1.317	.194

a. Dependent Variable: DELF

From tables 112, 113, and 114, we can see that 3.4% of the variability in delivery strategy is explained by environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.185; the beta or the standardized coefficient, and the p-value is 0.194. Because the p-value is more than 0.05 (0.194 > 0.05), hence there is no significant effect between the dependent variable DEL and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 1.734, and the t-statistics t (49) = 1.317, and the p-value = 0.194.

The model does not confirm the significance of the relationship as the regression coefficient is 0.185 and the p-value is 0.194. Hence, our hypothesis H3 c is rejected.

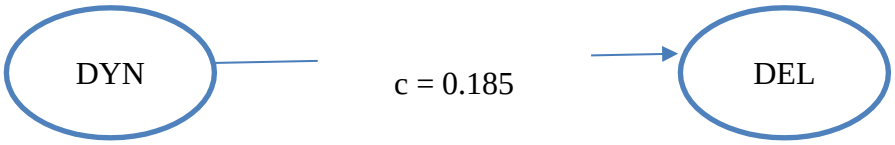

Figure 25: Total effect between DYN and DEL

4.3.3.4 Environmental Dynamism and Flexibility Strategy

Using SPSS, the relation between environmental dynamism and flexibility strategy are generated below:

Table 115: Model Summary for the relationship between DYN and FLX

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.108[a]	.012	-.009	1.0043

a. Predictors: (Constant), DYNF

Table 116: ANOVA for the relationship between DYN and FLX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.580	1	.580	.575	.452[b]
	Residual	49.420	49	1.009		
	Total	50.000	50			

a. Dependent Variable: FLXF

b. Predictors: (Constant), DYNF

Table 117: Coefficients for the relationship between DYN and FLX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.124E-017	.141		.000	1.000
	DYNF	.108	.142	.108	.758	.452

a. Dependent Variable: FLXF

From tables 115, 116, and 117, we can see that 1.2% of the variability in flexibility strategy is explained by environmental dynamism. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.108; the beta or the standardized coefficient, and the p-value is 0.452. Because the p-value is more than 0.05 (0.452 > 0.05), hence there is no significant effect between the dependent variable FLX and the independent variable DYN. We can also report that the F-statistics F (1, 49) = 0.575, and the t-statistics t (49) = 0.758, and the p-value = 0.452.

The model does not confirm the significance of the relationship as the regression coefficient is 0.108 and the p-value is 0.452. Hence, our hypothesis H3 d is rejected.

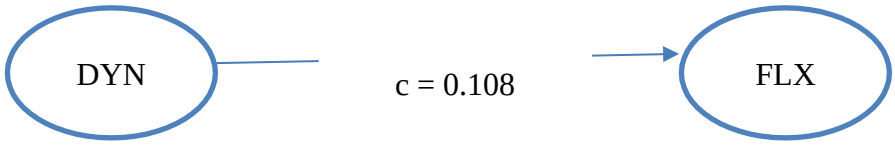

Figure 26: Total Effect between DYN and FLX

4.3.3.5 Environmental Complexity and Low-Cost Strategy

Using SPSS, the relation between environmental complexity and low-cost strategy are generated below:

Table 118: Model Summary for the relationship between CMP and LCS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.499[a]	.249	.234	.8753

a. Predictors: (Constant), CMPF

Table 119: ANOVA for the relationship between CMP and LCS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.460	1	12.460	16.265	.000[b]
	Residual	37.540	49	.766		
	Total	50.000	50			

a. Dependent Variable: LCSF

b. Predictors: (Constant), CMPF

Table 120: Coefficients for the relationship between CMP and LCS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.883E-017	.123		.000	1.000
	CMPF	.499	.124	.499	4.033	.000

a. Dependent Variable: LCSF

From tables 118, 119, and 120, we can see that 24.9% of the variability in low-cost strategy is explained by environmental complexity. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.499; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable LCS and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 16.265, and the t-statistics t (49) = 4.033, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.499 and the p-value is 0.000. Hence, our hypothesis H3 e is accepted.

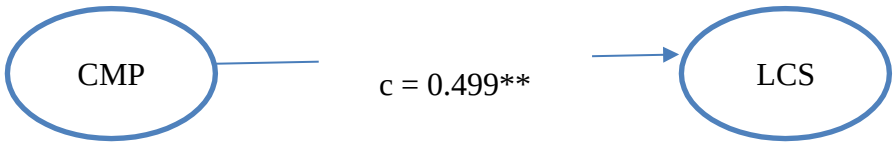

Figure 27: Total effect between CMP and LCS

4.3.3.6 Environmental Complexity and Quality Strategy

Using SPSS, the relation between environmental complexity and quality strategy are generated below:

Table 121: Model Summary for the relationship between CMP and QTY

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.424[a]	.180	.163	.9149

a. Predictors: (Constant), CMPF

Table 122: ANOVA for the relationship between CMP and QTY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.988	1	8.988	10.738	.002[b]
	Residual	41.012	49	.837		
	Total	50.000	50			

a. Dependent Variable: QTYF

b. Predictors: (Constant), CMPF

Table 123: Coefficients for the relationship between CMP and QTY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.680E-017	.128		.000	1.000

CMPF	.424	.129	.424	3.277	.002

a. Dependent Variable: QTYF

From tables 121, 122, and 123, we can see that 18% of the variability in quality strategy is explained by environmental complexity. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.424; the beta or the standardized coefficient, and the p-value is 0.002. Because the p-value is less than 0.05 (0.05 > 0.002), hence there is a significant effect between the dependent variable QTY and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 10.738, and the t-statistics t (49) = 3.277, and the p-value = 0.002.

The model confirms the significance of the relationship as the regression coefficient is 0.424 and the p-value is 0.002. Hence, our hypothesis H3 f is accepted.

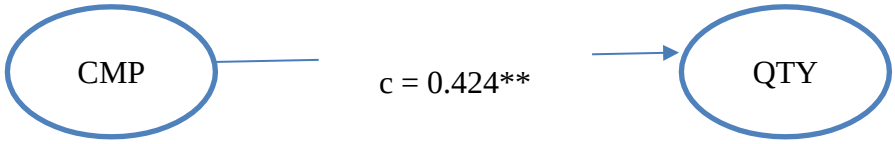

Figure 28: Total effect between CMP and QTY

4.3.3.7 Environmental Complexity and Delivery Strategy

Using SPSS, the relation between environmental complexity and delivery strategy are generated below:

Table 124: Model Summary for the relationship between CMP and DEL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.532[a]	.283	.268	.8555

a. Predictors: (Constant), CMPF

Table 125: ANOVA for the relationship between CMP and DEL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.141	1	14.141	19.324	.000[b]
	Residual	35.859	49	.732		
	Total	50.000	50			

a. Dependent Variable: DELF

b. Predictors: (Constant), CMPF

Table 126: Coefficients for the relationship between CMP and DEL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.731E-016	.120		.000	1.000
	CMPF	.532	.121	.532	4.396	.000

a. Dependent Variable: DELF

From tables 124, 125, and 126, we can see that 28.3% of the variability in delivery strategy is explained by environmental complexity. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.532; the beta or the

standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable DEL and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 19.324, and the t-statistics t (49) = 4.396, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.532 and the p-value is 0.000. Hence, our hypothesis H3 g is accepted.

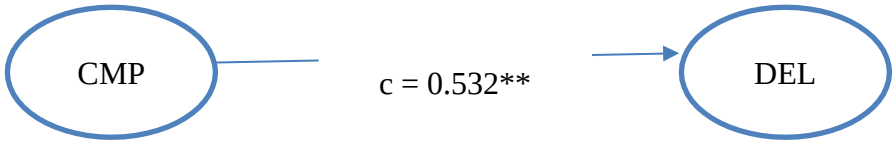

Figure 29: Total effect between CMP and DEL

4.3.3.8 Environmental Complexity and Flexibility Strategy

Using SPSS, the relation between environmental complexity and flexibility strategy are generated below:

Table 127: Model Summary for the relationship between CMP and FLX

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.478[a]	.228	.212	.8875

a. Predictors: (Constant), CMPF

Table 128: ANOVA for the relationship between CMP and FLX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.406	1	11.406	14.481	.000[b]
	Residual	38.594	49	.788		
	Total	50.000	50			

a. Dependent Variable: FLXF

b. Predictors: (Constant), CMPF

Table 129: Coefficients for the relationship between CMP and FLX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.069E-018	.124		.000	1.000
	CMPF	.478	.126	.478	3.805	.000

a. Dependent Variable: FLXF

From tables 127, 128, and 129, we can see that 22.8% of the variability in flexibility strategy is explained by environmental complexity. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.478; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable FLX and the independent variable CMP. We can also report that the F-statistics F (1, 49) = 14.481, and the t-statistics t (49) = 3.805, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is

0.478 and the p-value is 0.000. Hence, our hypothesis H3 h is accepted.

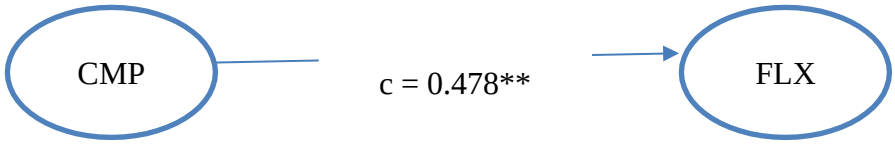

Figure 30: Total effect between CMP and FLX

4.3.3.9 Environmental Hostility and Low-Cost Strategy

Using SPSS, the relation between environmental hostility and low-cost strategy are generated below:

Table 130: Model Summary for the relationship between HOS and LCS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.457[a]	.209	.193	.8984

a. Predictors: (Constant), HOSF

Table 131: ANOVA for the relationship between HOS and LCS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.448	1	10.448	12.944	.001[b]
	Residual	39.552	49	.807		
	Total	50.000	50			

a. Dependent Variable: LCSF

b. Predictors: (Constant), HOSF

Table 132: Coefficients for the relationship between HOS and LCS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.847E-016	.126		.000	1.000
	HOSF	.457	.127	.457	3.598	.001

a. Dependent Variable: LCSF

From tables 130, 131, and 132, we can see that 20.9% of the variability in low-cost strategy is explained by environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.457; the beta or the standardized coefficient, and the p-value is 0.001. Because the p-value is less than 0.05 (0.05 > 0.001), hence there is a significant effect between the dependent variable LCS and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 12.944, and the t-statistics t (49) = 3.598, and the p-value = 0.001.

The model confirms the significance of the relationship as the regression coefficient is 0.457 and the p-value is 0.001. Hence, our hypothesis H3 i is accepted.

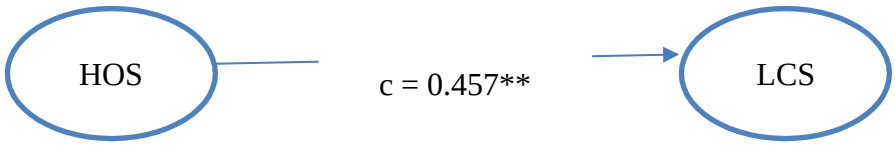

Figure 31: Total effect between HOS and LCS

4.3.3.10 Environmental Hostility and Quality Strategy

Using SPSS, the relation between environmental hostility and quality strategy are generated below:

Table 133: Model Summary for the relationship between HOS and QTY

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.468[a]	.219	.203	.8928

a. Predictors: (Constant), HOSF

Table 134: ANOVA for the relationship between HOS and QTY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.944	1	10.944	13.731	.001[b]
	Residual	39.056	49	.797		
	Total	50.000	50			

a. Dependent Variable: QTYF

b. Predictors: (Constant), HOSF

Table 135: Coefficients for the relationship between HOS and QTY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.064E-016	.125		.000	1.000

HOSF	.468	.126	.468	3.706	.001

a. Dependent Variable: QTYF

From tables 133, 134, and 135, we can see that 21.9% of the variability in quality strategy is explained by environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.468; the beta or the standardized coefficient, and the p-value is 0.001. Because the p-value is less than 0.05 (0.05 > 0.001), hence there is a significant effect between the dependent variable QTY and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 13.731, and the t-statistics t (49) = 3.706, and the p-value = 0.001.

The model confirms the significance of the relationship as the regression coefficient is 0.468 and the p-value is 0.001. Hence, our hypothesis H3 j is accepted.

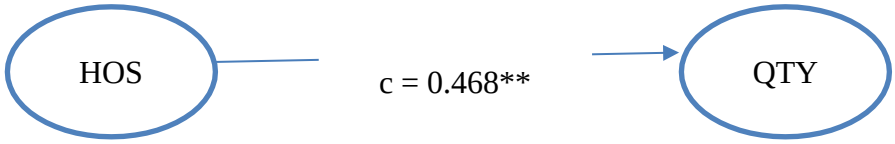

Figure 32: Total effect between HOS and QTY

4.3.3.11 Environmental Hostility and Delivery Strategy

Using SPSS, the relation between environmental hostility and delivery strategy are generated below:

Table 136: Model Summary for the relationship between HOS and DEL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.388[a]	.151	.133	.9310

a. Predictors: (Constant), HOSF

Table 137: ANOVA for the relationship between HOS and DEL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.532	1	7.532	8.691	.005[b]
	Residual	42.468	49	.867		
	Total	50.000	50			

a. Dependent Variable: DELF

b. Predictors: (Constant), HOSF

Table 138: Coefficients for the relationship between HOS and DEL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.592E-016	.130		.000	1.000
	HOSF	.388	.132	.388	2.948	.005

a. Dependent Variable: DELF

From tables 136, 137, and 138, we can see that 15.1% of the variability in delivery strategy is explained by environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.388; the beta or the standardized coefficient, and the p-value is 0.005. Because the p-value is less than 0.05 (0.05 > 0.005), hence there is a significant effect between the dependent variable DEL and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 8.691, and the t-statistics t (49) = 2.948, and the p-value = 0.005.

The model confirms the significance of the relationship as the regression coefficient is 0.388 and the p-value is 0.005. Hence, our hypothesis H3 k is accepted.

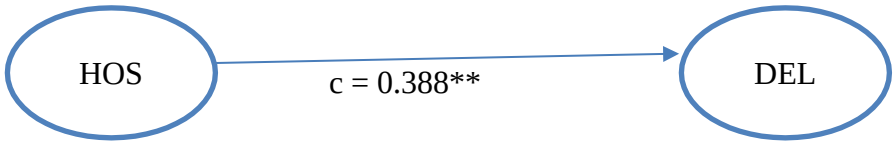

Figure 33: Total effect between HOS and DEL

4.3.3.12 Environmental Hostility and Flexibility Strategy

Using SPSS, the relation between environmental hostility and flexibility strategy are generated below:

Table 139: Model Summary for the relationship between HOS and FLX

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.408[a]	.166	.149	.9224

a. Predictors: (Constant), HOSF

Table 140: ANOVA for the relationship between HOS and FLX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.309	1	8.309	9.765	.003[b]
	Residual	41.691	49	.851		
	Total	50.000	50			

a. Dependent Variable: FLXF

b. Predictors: (Constant), HOSF

Table 141: Coefficients for the relationship between HOS and FLX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.093E-016	.129		.000	1.000
	HOSF	.408	.130	.408	3.125	.003

a. Dependent Variable: FLXF

From tables139, 140, and 141, we can see that 16.6% of the variability in flexibility strategy is explained by environmental hostility. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.408; the beta or the standardized coefficient, and the p-value is 0.003. Because the p-value is less than 0.05 (0.05 > 0.003), hence there is a significant effect between the dependent variable FLX and the independent variable HOS. We can also report that the F-statistics F (1, 49) = 9.765, and the t-statistics t (49) = 3.125, and the p-value = 0.003.

The model confirms the significance of the relationship as the regression coefficient is 0.408 and the p-value is 0.003. Hence, our hypothesis H3 l is accepted.

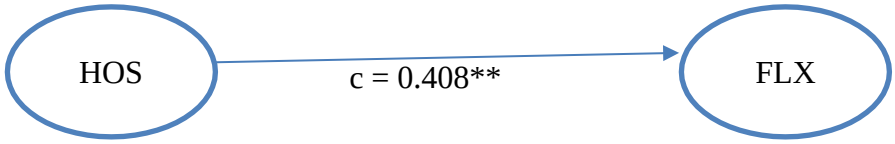

Figure 34: Total effect between HOS and FLX

4.3.4 The effect of Generic Strategy on Operations Strategy

For the fourth hypothesis, the two variables that are going to be tested in our analysis are generic strategy (independent variable) and operations strategy (dependent variable). This will be essential to test our fourth hypothesis (H4). A regression model is constructed using factor scores generated by SPSS. The output between GEN and OPP is as follows:

Table 142: Model Summary for the relationship between GEN and OPP

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.596[a]	.356	.342	.8109

a. Predictors: (Constant), GEN

Table 143: ANOVA for the relationship between GEN and OPP

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	17.782	1	17.782	27.046	.000[b]
	Residual	32.218	49	.658		
	Total	50.000	50			

a. Dependent Variable: OPP

b. Predictors: (Constant), GEN

Table 144: Coefficients for the relationship between GEN and OPP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.015E-016	.114		.000	1.000
	GEN	.596	.115	.596	5.201	.000

a. Dependent Variable: OPP

From tables 142, 143, and 144, we can see that 35.6% of the variability in generic strategy is explained by operations strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.596; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable OPP and the independent variable GEN. We can also report that the F-statistics F (1, 49) = 27.046, and the t-statistics t (49) = 5.201, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.596 and the p-value is 0.000. Hence, our hypothesis H4 is accepted.

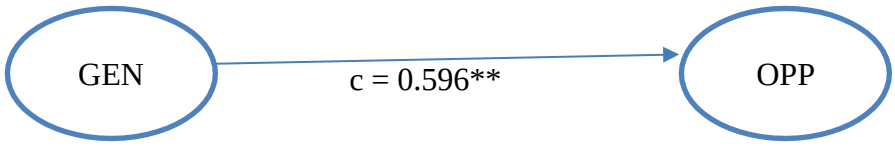

Figure 35: Total effect between GEN and OPP

4.3.4.1 Cost Leadership Strategy and Low-Cost Strategy

Using SPSS, the relation between cost leadership and low-cost strategies are generated below:

Table 145: Model Summary for the relationship between CLS and LCS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.507[a]	.257	.242	.8708

a. Predictors: (Constant), CLSF

Table 146: ANOVA for the relationship between CLS and LCS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.842	1	12.842	16.934	.000[b]
	Residual	37.158	49	.758		
	Total	50.000	50			

a. Dependent Variable: LCSF

b. Predictors: (Constant), CLSF

Table 147: Coefficients for the relationship between CLS and LCS

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		

1	(Constant)	1.047E-016	.122		.000	1.000
	CLSF	.507	.123	.507	4.115	.000

a. Dependent Variable: LCSF

From tables 145, 146, and 147, we can see that 25.7% of the variability in cost leadership strategy is explained by low-cost strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.507; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable LCS and the independent variable CLS. We can also report that the F-statistics F (1, 49) = 16.934, and the t-statistics t (49) = 4.115, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.507 and the p-value is 0.000. Hence, our hypothesis H4 a is accepted.

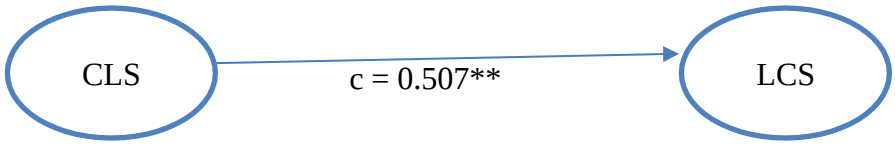

Figure 36: Total effect between CLS and LCS

4.3.4.2 Cost Leadership Strategy and Quality Strategy

Using SPSS, the relation between cost leadership and quality strategies are generated below:

Table 148: Model Summary for the relationship between CLS and QTY

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316[a]	.100	.081	.9584

a. Predictors: (Constant), CLSF

Table 149: ANOVA for the relationship between CLS and QTY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.989	1	4.989	5.431	.024[b]
	Residual	45.011	49	.919		
	Total	50.000	50			

a. Dependent Variable: QTYF

b. Predictors: (Constant), CLSF

Table 150: Coefficients for the relationship between CLS and QTY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.914E-017	.134		.000	1.000
	CLSF	.316	.136	.316	2.330	.024

a. Dependent Variable: QTYF

From tables 148, 149, and 150, we can see that 10% of the variability in cost leadership strategy is explained by quality strategy. Also, the model confirmed the significance of

the relationship as the regression coefficient is 0.316; the beta or the standardized coefficient, and the p-value is 0.024. Because the p-value is less than 0.05 (0.05 > 0.024), hence there is a significant effect between the dependent variable QTY and the independent variable CLS. We can also report that the F-statistics F (1, 49) = 5.431, and the t-statistics t (49) = 2.33, and the p-value = 0.024.

The model confirms the significance of the relationship as the regression coefficient is 0.316 and the p-value is 0.024. Hence, our hypothesis H4 b is accepted.

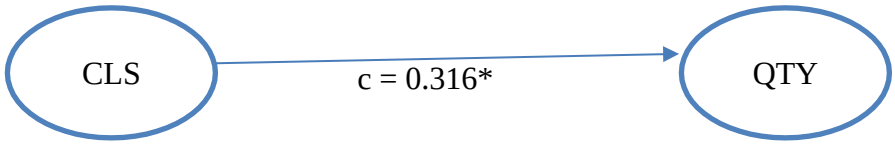

Figure 37: Total effect between CLS and QTY

4.3.4.3 Cost Leadership Strategy and Delivery Strategy

Using SPSS, the relation between cost leadership and delivery strategies are generated below:

Table 151: Model Summary for the relationship between CLS and DEL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.282[a]	.079	.061	.9693

a. Predictors: (Constant), CLSF

Table 152: ANOVA for the relationship between CLS and DEL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.967	1	3.967	4.223	.045[b]
	Residual	46.033	49	.939		
	Total	50.000	50			

a. Dependent Variable: DELF

b. Predictors: (Constant), CLSF

Table 153: Coefficients for the relationship between CLS and DEL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.310E-016	.136		.000	1.000
	CLSF	.282	.137	.282	2.055	.045

a. Dependent Variable: DELF

From tables 151, 152, and 153, we can see that 7.9% of the variability in cost leadership strategy is explained by delivery strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.282; the beta or the standardized coefficient, and the p-value is 0.045. Because the p-value is less than 0.05 (0.05 > 0.045), hence there is a significant effect between the dependent variable DEL and the independent variable CLS. We can also report that the F-statistics F (1, 49) = 4.223, and

the t-statistics t (49) = 2.055, and the p-value = 0.045.

The model confirms the significance of the relationship as the regression coefficient is 0.282 and the p-value is 0.045. Hence, our hypothesis H4 c is accepted.

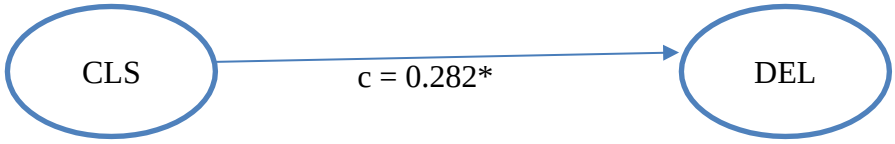

Figure 38: Total effect between CLS and DEL

4.3.4.4 Cost Leadership Strategy and Flexibility Strategy

Using SPSS, the relation between cost leadership strategy and flexibility strategy are generated below:

Table 154: Model Summary for the relationship between CLS and FLX

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.075[a]	.006	-.015	1.0073

a. Predictors: (Constant), CLSF

Table 155: ANOVA for the relationship between CLS and FLX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.281	1	.281	.277	.601[b]
	Residual	49.719	49	1.015		
	Total	50.000	50			

a. Dependent Variable: FLXF
b. Predictors: (Constant), CLSF

Table 156: Coefficients for the relationship between CLS and FLX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.808E-017	.141		.000	1.000
	CLSF	.075	.142	.075	.526	.601

a. Dependent Variable: FLXF

From tables 154, 155, and 156, we can see that 0.6% of the variability in cost leadership strategy is explained by flexibility strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.075; the beta or the standardized coefficient, and the p-value is 0.601. Because the p-value is more than 0.05 (0.601 > 0.05), hence there is no significant effect between the dependent variable FLX and the independent variable CLS. We can also report that the F-statistics F (1, 49) = 0.277, and the t-statistics t (49) = 0.526, and the p-value = 0.601.

The model does not confirm the significance of the relationship as the regression coefficient is 0.075 and the p-value is 0.601. Hence, our hypothesis H4 d is rejected.

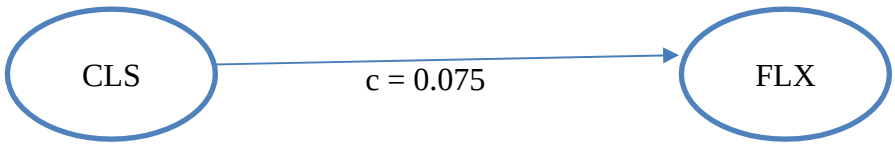

Figure 39: Total effect between CLS and FLX

4.3.4.5 Differentiation strategy and Low-Cost strategy

Using SPSS, the relation between differentiation and low-cost strategies are generated below:

Table 157: Model Summary for the relationship between DIF and LCS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.496[a]	.246	.230	.8774

a. Predictors: (Constant), DIFF

Table 158: ANOVA for the relationship between DIF and LCS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.281	1	12.281	15.954	.000[b]
	Residual	37.719	49	.770		
	Total	50.000	50			

a. Dependent Variable: LCSF
b. Predictors: (Constant), DIFF

Table 159: Coefficients for the relationship between DIF and LCS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.172E-017	.123		.000	1.000
	DIFF	.496	.124	.496	3.994	.000

a. Dependent Variable: LCSF

From tables 157, 158, and 159, we can see that 24.6% of the variability in differentiation strategy is explained by low-cost strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.496; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable LCS and the independent variable DIF. We can also report that the F-statistics F (1, 49) = 15.954, and the t-statistics t (49) = 3.994, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.496 and the p-value is 0.000. Hence, our hypothesis H4 e is accepted.

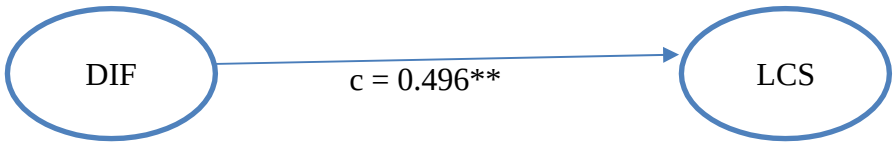

Figure 40: Total effect between DIF and LCS

4.3.4.6 Differentiation Strategy and Quality Strategy

Using SPSS, the relation between differentiation strategy and quality strategy are generated below:

Table 160: Model Summary for the relationship between DIF and QTY

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.550[a]	.303	.289	.8433

a. Predictors: (Constant), DIFF

Table 161: ANOVA for the relationship between DIF and QTY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.153	1	15.153	21.306	.000[b]
	Residual	34.847	49	.711		
	Total	50.000	50			

a. Dependent Variable: QTYF
b. Predictors: (Constant), DIFF

Table 162: Coefficients for the relationship between DIF and QTY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.905E-020	.118		.000	1.000
	DIFF	.550	.119	.550	4.616	.000

a. Dependent Variable: QTYF

From tables 160, 161, and 162, we can see that 30.3% of the variability in differentiation strategy is explained by quality strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.55; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable QTY and the independent variable DIF. We can also report that the F-statistics F (1, 49) = 21.306, and the t-statistics t (49) = 4.616, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.55 and the p-value is 0.000. Hence, our hypothesis H4 f is accepted.

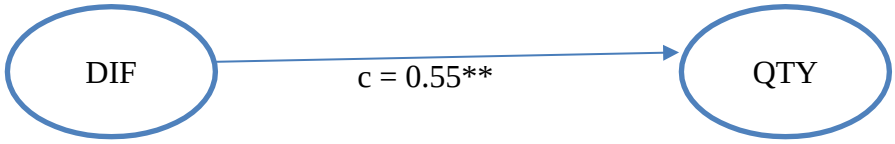

Figure 41: Total effect between DIF and QTY

4.3.4.7 Differentiation Strategy and Delivery Strategy

Using SPSS, the relation between differentiation and delivery strategies are generated below:

Table 163: Model Summary for the relationship between DIF and DEL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.662[a]	.438	.426	.7574

a. Predictors: (Constant), DIFF

Table 164: ANOVA for the relationship between DIF and DEL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.890	1	21.890	38.158	.000[b]
	Residual	28.110	49	.574		
	Total	50.000	50			

a. Dependent Variable: DELF
b. Predictors: (Constant), DIFF

Table 165: Coefficients for the relationship between DIF and DEL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.513E-016	.106		.000	1.000
	DIFF	.662	.107	.662	6.177	.000

a. Dependent Variable: DELF

From tables163, 164, and 165, we can see that 43.8% of the variability in differentiation strategy is explained by delivery strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.662; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 >

0.000), hence there is a significant effect between the dependent variable DEL and the independent variable DIF. We can also report that the F-statistics F (1, 49) = 38.158, and the t-statistics t (49) = 6.177, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.662 and the p-value is 0.000. Hence, our hypothesis H4 g is accepted.

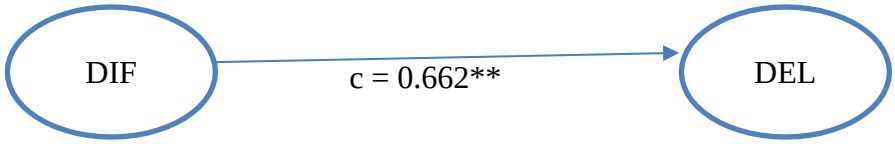

Figure 42: Total effect between DIF and DEL

4.3.4.8 Differentiation strategy and Flexibility strategy

Using SPSS, the relation between differentiation and flexibility strategies are generated below:

Table 166: Model Summary for the relationship between DIF and FLX

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509[a]	.259	.244	.8696

a. Predictors: (Constant), DIFF

Table 167: ANOVA for the relationship between DIF and FLX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.943	1	12.943	17.114	.000[b]
	Residual	37.057	49	.756		
	Total	50.000	50			

a. Dependent Variable: FLXF

b. Predictors: (Constant), DIFF

Table 168: Coefficients for the relationship between DIF and FLX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.615E-017	.122		.000	1.000
	DIFF	.509	.123	.509	4.137	.000

a. Dependent Variable: FLXF

From tables 166, 167, and 168, we can see that 25.9% of the variability in differentiation strategy is explained by flexibility strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.509; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable FLX and the independent variable DIF. We can also report that the F-statistics F (1, 49) = 17.114, and the t-statistics t (49) = 4.137, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.509 and the p-value is 0.000. Hence, our hypothesis H4 is accepted.

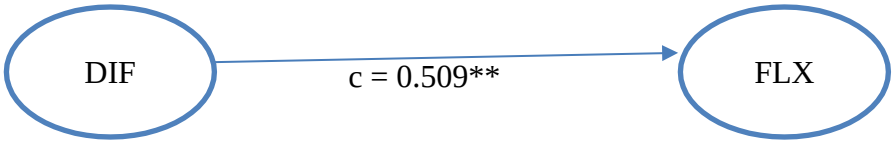

Figure 43: Total effect between DIF and FLX

4.3.4.9 Focus Strategy and Low-Cost Strategy

Using SPSS, the relation between focus and low-cost strategies are generated below:

Table 169: Model Summary for the relationship between FOC and LCS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.474[a]	.225	.209	.8895

a. Predictors: (Constant), FOCF

Table 170: ANOVA for the relationship between FOC and LCS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.230	1	11.230	14.194	.000[b]
	Residual	38.770	49	.791		
	Total	50.000	50			

a. Dependent Variable: LCSF

b. Predictors: (Constant), FOCF

Table 171: Coefficients for the relationship between FOC and LCS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.463E-017	.125		.000	1.000
	FOCF	.474	.126	.474	3.767	.000

a. Dependent Variable: LCSF

From tables 169, 170, and 171, we can see that 22.5% of the variability in focus strategy is explained by low-cost strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.474; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable LCS and the independent variable FOC. We can also report that the F-statistics F (1, 49) = 14.194, and the t-statistics t (49) = 3.767, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.474 and the p-value is 0.000. Hence, our hypothesis H4 i is accepted.

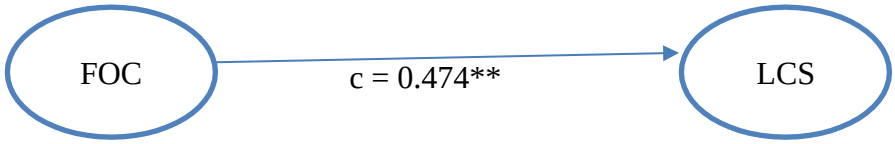

Figure 44: Total effect between FOC and LCS

4.3.4.10 Focus Strategy and Quality Strategy

Using SPSS, the relation between focus and quality strategies are generated below:

Table 172: Model Summary for the relationship between FOC and QTY

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386[a]	.149	.131	.9320

a. Predictors: (Constant), FOCF

Table 173: ANOVA for the relationship between FOC and QTY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.435	1	7.435	8.558	.005[b]
	Residual	42.565	49	.869		
	Total	50.000	50			

a. Dependent Variable: QTYF

b. Predictors: (Constant), FOCF

Table 174: Coefficients for the relationship between FOC and QTY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.355E-017	.131		.000	1.000
	FOCF	.386	.132	.386	2.925	.005

a. Dependent Variable: QTYF

From tables172, 173, and 174, we can see that 14.9% of the variability in focus strategy

is explained by quality strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.386; the beta or the standardized coefficient, and the p-value is 0.005. Because the p-value is less than 0.05 (0.05 > 0.005), hence there is a significant effect between the dependent variable QTY and the independent variable FOC. We can also report that the F-statistics F (1, 49) = 8.558, and the t-statistics t (49) = 2.925, and the p-value = 0.005.

The model confirms the significance of the relationship as the regression coefficient is 0.386 and the p-value is 0.005. Hence, our hypothesis H4 j is accepted.

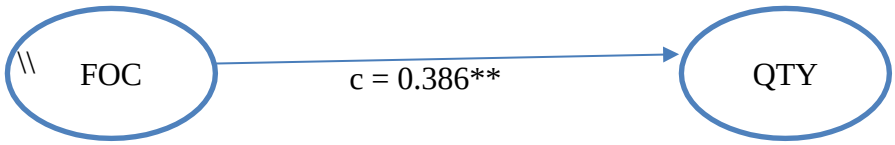

Figure 45: Total effect between FOC and QTY

4.3.4.11 Focus Strategy and Delivery Strategy

Using SPSS, the relation between focus and delivery strategies are generated below:

Table 175: Model Summary for the relationship between FOC and DEL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460[a]	.212	.196	.8967

a. Predictors: (Constant), FOCF

Table 176: ANOVA for the relationship between FOC and DEL

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.600	1	10.600	13.182	.001[b]
	Residual	39.400	49	.804		
	Total	50.000	50			

a. Dependent Variable: DELF

b. Predictors: (Constant), FOCF

Table 177: Coefficients for the relationship between FOC and DEL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.511E-016	.126		.000	1.000
	FOCF	.460	.127	.460	3.631	.001

a. Dependent Variable: DELF

From tables 175, 176, and 177, we can see that 21.2% of the variability in focus strategy is explained by delivery strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.46; the beta or the standardized coefficient, and the p-value is 0.001. Because the p-value is less than 0.05 (0.05 > 0.001), hence there is a significant effect between the dependent variable DEL and the independent variable FOC. We can also report that the F-statistics F (1, 49) = 13.182, and the t-statistics t (49) = 3.631, and the p-value = 0.001.

The model confirms the significance of the relationship as the regression coefficient is 0.46 and the p-value is 0.001. Hence, our hypothesis H4 k is accepted.

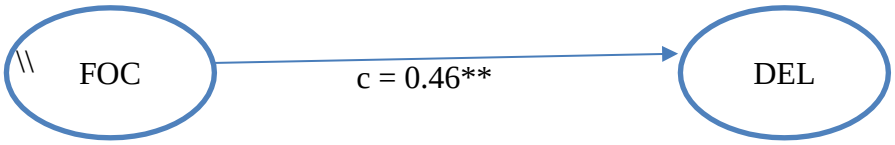

Figure 46: Total effect between FOC and DEL

4.3.4.12 Focus Strategy and Flexibility Strategy

Using SPSS, the relation between focus and flexibility strategies are generated below:

Table 178: Model Summary for the relationship between FOC and FLX

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.223[a]	.050	.030	.9848

a. Predictors: (Constant), FOCF

Table 179: ANOVA for the relationship between FOC and FLX

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.476	1	2.476	2.553	.117[b]
	Residual	47.524	49	.970		
	Total	50.000	50			

a. Dependent Variable: FLXF

b. Predictors: (Constant), FOCF

Table 180: Coefficients for the relationship between FOC and FLX

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.838E-017	.138		.000	1.000
	FOCF	.223	.139	.223	1.598	.117

a. Dependent Variable: FLXF

From tables 178, 179, and 180, we can see that 5% of the variability in focus strategy is explained by flexibility strategy. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.223; the beta or the standardized coefficient, and the p-value is 0.117. Because the p-value is more than 0.05 (0.117 > 0.05), hence there is no significant effect between the dependent variable FLX and the independent variable FOC. We can also report that the F-statistics F (1, 49) = 2.553, and the t-statistics t (49) = 1.598, and the p-value = 0.117.

The model does not confirm the significance of the relationship as the regression coefficient is 0.223 and the p-value is 0.117. Hence, our hypothesis H4 l is rejected.

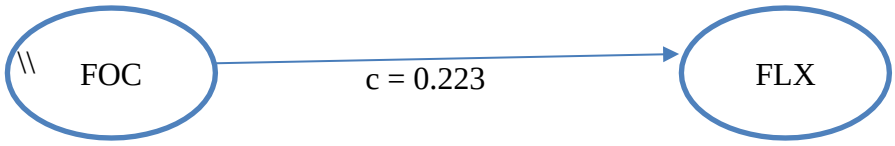

Figure 47: Total effect between FOC and FLX

4.3.5 The effect of Generic Strategy on Business Performance

For the fifth hypothesis, the two variables that are going to be tested in our analysis are generic strategy (independent variable) and business performance (dependent variable). This will be essential to test our fifth hypothesis (H5). A regression model is constructed using factor scores generated by SPSS. The output between GEN and PER is as follows:

Table 181: Model Summary for the relationship between GEN and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.572[a]	.327	.314	.8284

a. Predictors: (Constant), GEN

Table 182: ANOVA for the relationship between GEN and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.373	1	16.373	23.858	.000[b]
	Residual	33.627	49	.686		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), GEN

Table 183: Coefficients for the relationship between GEN and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.737E-017	.116		.000	1.000
	GEN	.572	.117	.572	4.884	.000

a. Dependent Variable: PER

From tables 181, 182, and 183, we can see that 32.7% of the variability in generic strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.572; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable PER and the independent variable GEN. We can also report that the F-statistics F (1, 49) = 23.858, and the t-statistics t (49) = 4.884, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.572 and the p-value is 0.000. Hence, our hypothesis H5 is accepted.

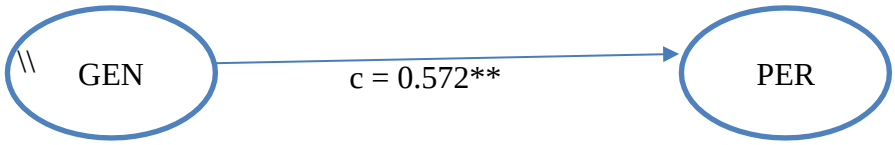

Figure 48: Total effect between GEN and PER

4.3.5.1 Cost Leadership Strategy and Business Performance

Using SPSS, the relation between cost leadership strategy and business performance are generated below:

Table 184: Model Summary for the relationship between CLS and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.505[a]	.255	.239	.8721

a. Predictors: (Constant), CLSF

Table 185: ANOVA for the relationship between CLS and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.732	1	12.732	16.740	.000[b]
	Residual	37.268	49	.761		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), CLSF

Table 186: Coefficients for the relationship between CLS and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.318E-017	.122		.000	1.000
	CLSF	.505	.123	.505	4.091	.000

a. Dependent Variable: PER

From tables 184, 185, and 186, we can see that 25.5% of the variability in cost leadership strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.505; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable PER and the independent variable CLS. We can also report that the F-statistics F (1, 49) = 16.74, and the t-statistics t (49) = 4.091, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.505 and the p-value is 0.000. Hence, our hypothesis H5 a is accepted.

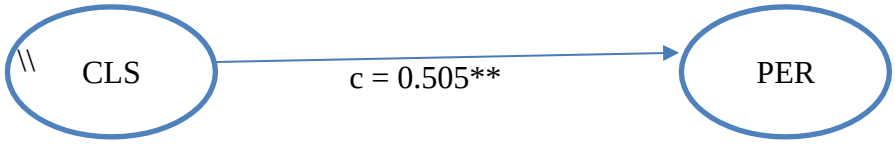

Figure 49: Total effect between CLS and PER

4.3.5.2 Differentiation Strategy and Business Performance

Using SPSS, the relation between differentiation strategy and business performance are generated below:

Table 187: Model Summary for the relationship between DIF and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.439[a]	.193	.176	.9077

a. Predictors: (Constant), DIFF

Table 188: ANOVA for the relationship between DIF and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.629	1	9.629	11.687	.001[b]
	Residual	40.371	49	.824		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), DIFF

Table 189: Coefficient for the relationship between DIF and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.598E-018	.127		.000	1.000
	DIFF	.439	.128	.439	3.419	.001

a. Dependent Variable: PER

From tables 187, 188, and 189, we can see that 19.3% of the variability in differentiation strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.439; the beta or the

standardized coefficient, and the p-value is 0.001. Because the p-value is less than 0.05 (0.05 > 0.001), hence there is a significant effect between the dependent variable PER and the independent variable DIF. We can also report that the F-statistics F (1, 49) = 11.687, and the t-statistics t (49) = 3.419, and the p-value = 0.001.

The model confirms the significance of the relationship as the regression coefficient is 0.439 and the p-value is 0.001. Hence, our hypothesis H5 b is accepted.

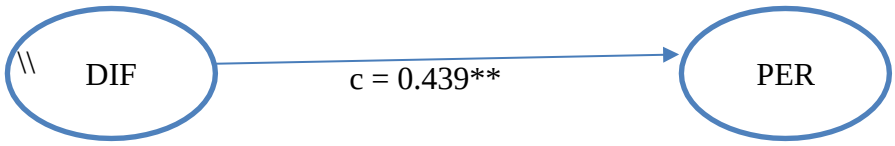

Figure 50: Total effect between DIF and PER

4.3.5.3 Focus Strategy and Business Performance

Using SPSS, the relation between focus strategy and business performance are generated below:

Table 190: Model Summary for the relationship between FOC and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.555[a]	.308	.294	.8403

a. Predictors: (Constant), FOCF

Table 191: ANOVA for the relationship between FOC and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.397	1	15.397	21.803	.000[b]
	Residual	34.603	49	.706		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), FOCF

Table 192: Coefficients for the relationship between FOC and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.359E-016	.118		.000	1.000
	FOCF	.555	.119	.555	4.669	.000

a. Dependent Variable: PER

From tables 190, 191, and 192, we can see that 30.8% of the variability in focus strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.555; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable PER and the independent variable FOC. We can also report that the F-statistics F (1, 49) = 21.803, and the t-statistics t (49) = 4.669, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.555 and the p-value is 0.000. Hence, our hypothesis H5 c is accepted.

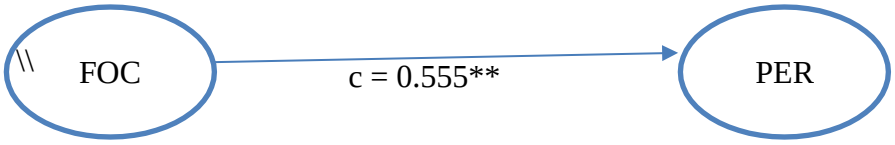

Figure 51: Total effect between FOC and PER

4.3.6 The effect of Operations Strategy on Business Performance

For the sixth hypothesis, the two variables that are going to be tested in our analysis are operations strategy (independent variable) and business performance (dependent variable). This will be essential to test our sixth hypothesis (H6). A regression model is constructed using factor scores generated by SPSS. The output between OPP and PER is as follows:

Table 193: Model Summary for the relationship between OPP and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.499[a]	.249	.234	.8754

a. Predictors: (Constant), OPP

Table 194: ANOVA for the relationship between OPP and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.453	1	12.453	16.251	.000[b]
	Residual	37.547	49	.766		

Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), OPP

Table 195: Coefficients for the relationship between OPP and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.123E-017	.123		.000	1.000
	OPP	.499	.124	.499	4.031	.000

a. Dependent Variable: PER

From tables 193, 194, and 195, we can see that 24.9% of the variability in operations strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.499; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable PER and the independent variable OPP. We can also report that the F-statistics F (1, 49) = 16.251, and the t-statistics t (49) = 4.031, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.499 and the p-value is 0.000. Hence, our hypothesis H6 is accepted.

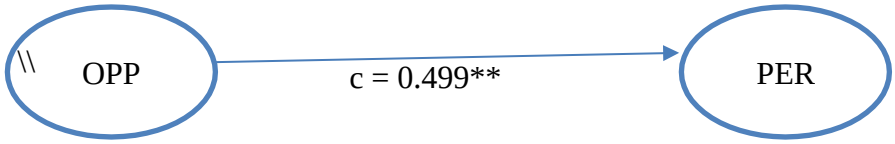

Figure 52: Total effect between OPP and PER

4.3.6.1 Low-Cost Strategy and Business Performance

Using SPSS, the relation between low-cost strategy and business performance are generated below:

Table 196: Model Summary for the relationship between LCS and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.473[a]	.224	.208	.8899

a. Predictors: (Constant), LCSF

Table 197: ANOVA for the relationship between LCS and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.197	1	11.197	14.140	.000[b]
	Residual	38.803	49	.792		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), LCSF

Table 198: Coefficients for the relationship between LCS and PER

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		

1	(Constant)	-4.327E-017	.125		.000	1.000
	LCSF	.473	.126	.473	3.760	.000

a. Dependent Variable: PER

From tables 196, 197, and 198, we can see that 22.4% of the variability in low-cost strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.473; the beta or the standardized coefficient, and the p-value is 0.000. Because the p-value is less than 0.05 (0.05 > 0.000), hence there is a significant effect between the dependent variable PER and the independent variable LCS. We can also report that the F-statistics F (1, 49) = 14.14, and the t-statistics t (49) = 3.76, and the p-value = 0.000.

The model confirms the significance of the relationship as the regression coefficient is 0.473 and the p-value is 0.000. Hence, our hypothesis H6 a is accepted.

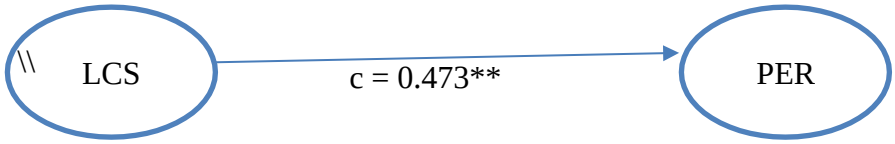

Figure 53: Total effect between LCS and PER

4.3.6.2 Quality Strategy and Business Performance

Using SPSS, the relation between quality strategy and business performance are generated below:

Table 199: Model Summary for the relationship between QTY and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.401[a]	.161	.144	.9253

a. Predictors: (Constant), QTYF

Table 200: ANOVA for the relationship between QTY and PER

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.044	1	8.044	9.395	.004[b]
	Residual	41.956	49	.856		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), QTYF

Table 201: Coefficients for the relationship between QTY and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.366E-018	.130		.000	1.000
	QTYF	.401	.131	.401	3.065	.004

a. Dependent Variable: PER

From tables 199, 200, and 201, we can see that 16.1% of the variability in quality strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.401; the beta or the standardized coefficient, and the p-value is 0.004. Because the p-value is less than 0.05

(0.05 > 0.004), hence there is a significant effect between the dependent variable PER and the independent variable QTY. We can also report that the F-statistics F (1, 49) = 9.395, and the t-statistics t (49) = 3.065, and the p-value = 0.004.

The model confirms the significance of the relationship as the regression coefficient is 0.401 and the p-value is 0.004. Hence, our hypothesis H6 b is accepted.

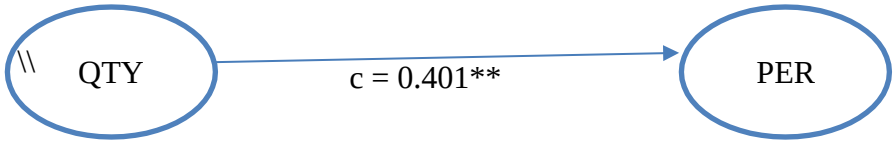

Figure 54: Total effect between QTY and PER

4.3.6.3 Delivery Strategy and Business Performance

Using SPSS, the relation between delivery strategy and business performance are generated below:

Table 202: Model Summary for the relationship between DEL and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.451[a]	.203	.187	.9016

a. Predictors: (Constant), DELF

Table 203: ANOVA for the relationship between DEL and PER

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10.170	1	10.170	12.511	.001[b]
	Residual	39.830	49	.813		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), DELF

Table 204: Coefficients for the relationship between DEL and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.075E-016	.126		.000	1.000
	DELF	.451	.128	.451	3.537	.001

a. Dependent Variable: PER

From tables 202, 203, and 204, we can see that 20.3% of the variability in delivery strategy is explained by business performance. Also, the model confirmed the significance of the relationship as the regression coefficient is 0.451; the beta or the standardized coefficient, and the p-value is 0.001. Because the p-value is less than 0.05 (0.05 > 0.001), hence there is a significant effect between the dependent variable PER and the independent variable DEL. We can also report that the F-statistics F (1, 49) = 12.511, and the t-statistics t (49) = 3.537, and the p-value = 0.001.

The model confirms the significance of the relationship as the regression coefficient is 0.451 and the p-value is 0.001. Hence, our hypothesis H6 c is accepted.

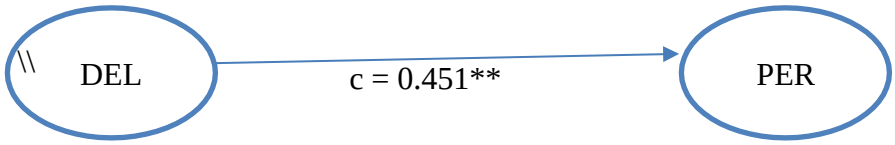

Figure 55: Total effect between DEL and PER

4.3.6.4 Flexibility Strategy and Business Performance

Using SPSS, the relation between flexibility strategy and business performance are

generated below:

Table 205: Model Summary for the relationship between FLX and PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.268[a]	.072	.053	.9731

a. Predictors: (Constant), FLXF

Table 206: ANOVA for the relationship between FLX and PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.597	1	3.597	3.798	.057[b]
	Residual	46.403	49	.947		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), FLXF

Table 207: Coefficients for the relationship between FLX and PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.006E-018	.136		.000	1.000
	FLXF	.268	.138	.268	1.949	.057

a. Dependent Variable: PER

From tables 205, 206, and 207, we can see that 7.2% of the variability in flexibility strategy is explained by business performance. Also, the model confirmed the

significance of the relationship as the regression coefficient is 0.268; the beta or the standardized coefficient, and the p-value is 0.057. Because the p-value is more than 0.05 (0.057 > 0.05), hence there is no significant effect between the dependent variable PER and the independent variable FLX. We can also report that the F-statistics F (1, 49) = 3.798, and the t-statistics t (49) = 1.949, and the p-value = 0.057.

The model does not confirm the significance of the relationship as the regression coefficient is 0.268 and the p-value is 0.057. Hence, our hypothesis H6 d is rejected.

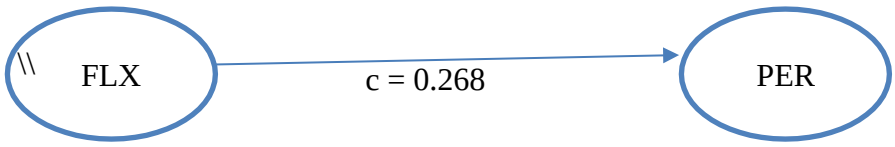

Figure 56: Total effect between FLX and PER

4.4 Summary of the above results (from H1 to H6)

From the above results, we can make a summary for hypothesis H1 to H6. The below tables are conducted:

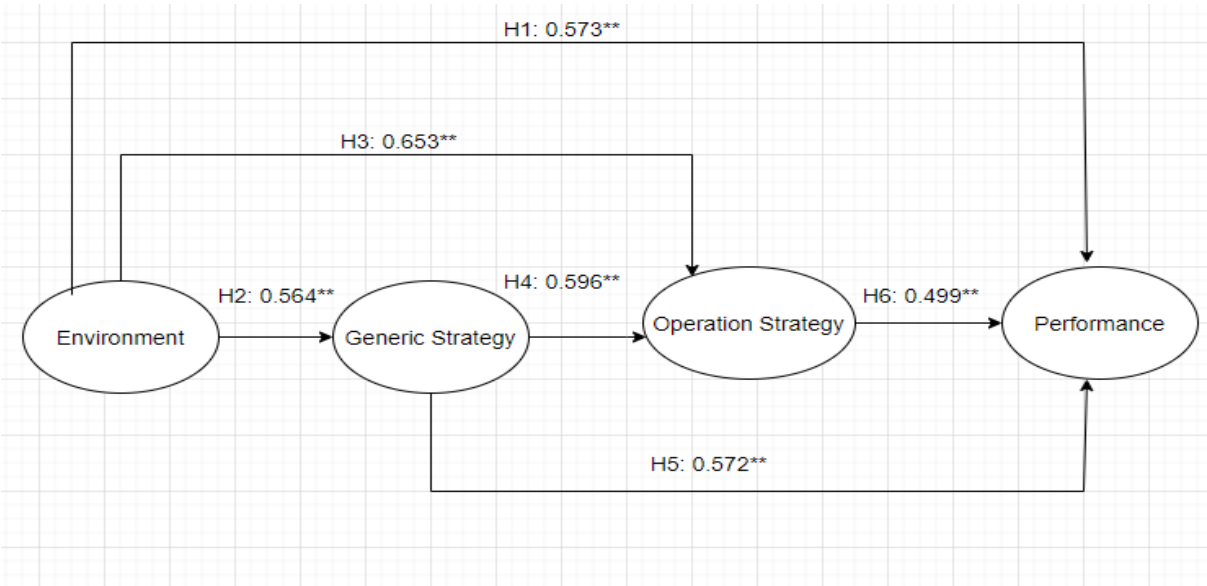

Figure 57: Diagram showing the total effect between all the variables.

Hypothesis 1 and its dimensions are summarized in table 208 and figure 58 below:

Table 208: Table Summary for H1 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result
H1	ENV → PER	0.573**	0.828	4.893	0.000	Significant
H1 a	DYN → PER	0.365**	0.9404	2.746	0.008	Significant
H1 b	CMP → PER	0.573**	0.8277	4.897	0.000	Significant
H1 c	HOS → PER	0.350*	0.9462	2.616	0.012	Significant

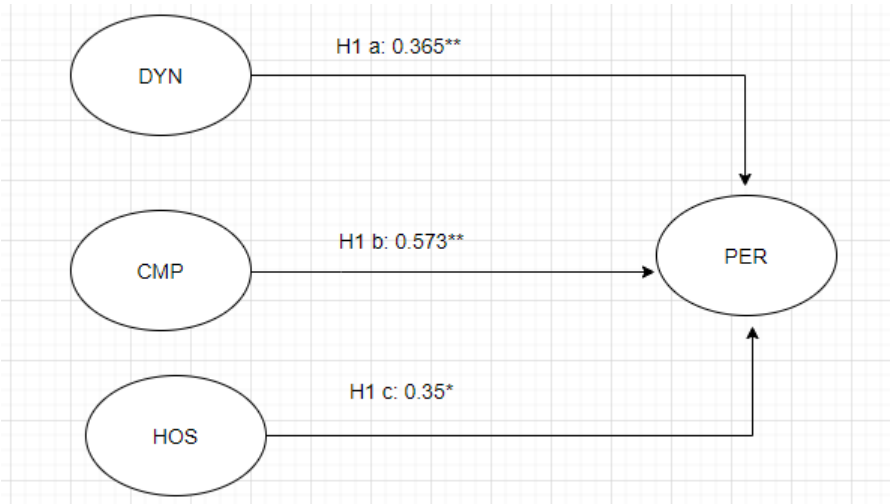

Figure 58: Diagram showing results summary for H1

Also, hypothesis 2 and its dimensions are summarized in table 209 and figure 59 below:

Table 209: Table Summary for H2 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result
H2	ENV → GEN	0.564**	0.834	4.784	0.000	Significant
H2 a	DYN → CLS	0.301*	0.9633	2.209	0.032	Significant
H2 b	DYN → DIF	0.218	0.9859	1.562	0.125	Not Significant
H2 c	DYN → FOC	0.222	0.985	1.592	0.118	Not Significant
H2 d	CMP → CLS	0.451**	0.9015	3.538	0.001	Significant
H2 e	CMP → DIF	0.615**	0.7968	5.454	0.000	Significant
H2 f	CMP → FOC	0.491**	0.8801	3.944	0.000	Significant
H2 g	HOS → CLS	0.152	0.9984	1.078	0.286	Not Significant
H2 h	HOS → DIF	0.4**	0.9259	3.054	0.004	Significant
H2 i	HOS → FOC	0.429**	0.9126	3.323	0.002	Significant

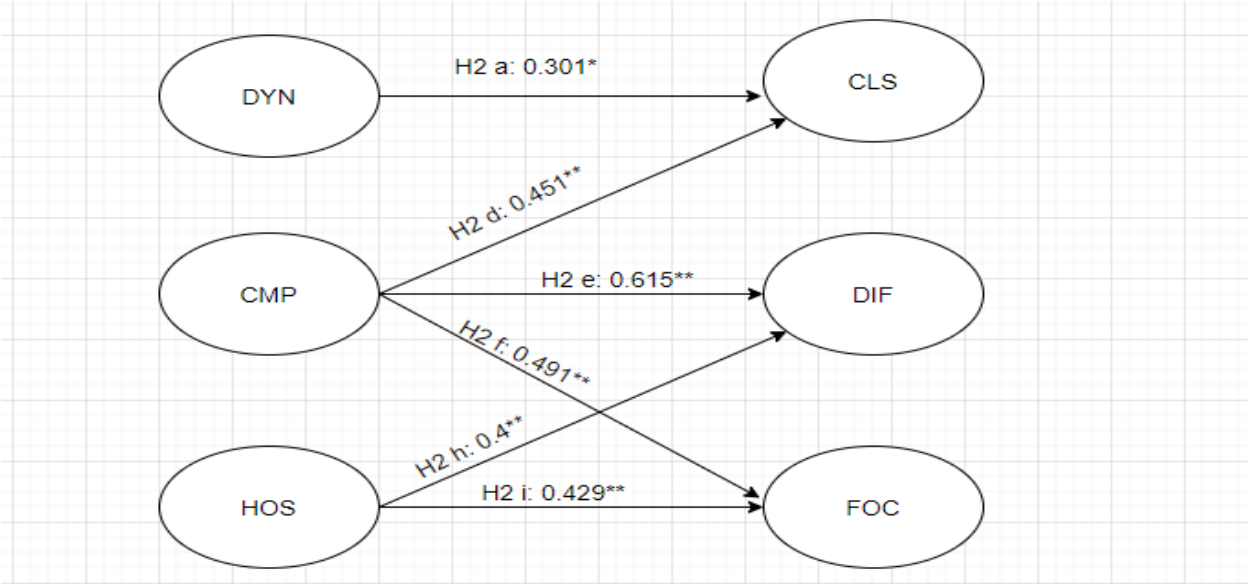

Figure 59: Diagram showing results summary for H2

Similarly, hypothesis 3 and its dimensions are summarized in table 210 and figure 60 below:

Table 210: Table Summary for H3 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result
H3	ENV → OPP	0.653**	0.7651	6.034	0.000	Significant
H3 a	DYN → LCS	0.434**	0.9102	3.37	0.001	Significant
H3 b	DYN → QTY	0.338*	0.9507	2.515	0.015	Significant
H3 c	DYN → DEL	0.185	0.9927	1.317	0.194	Not Significant
H3 d	DYN → FLX	0.108	1.0043	0.758	0.452	Not Significant
H3 e	CMP → LCS	0.499**	0.8753	4.033	0.000	Significant
H3 f	CMP → QTY	0.424**	0.9149	3.277	0.002	Significant
H3 g	CMP →	0.532**	0.8555	4.396	0.000	Significant

	DEL					
H3 h	CMP → FLX	0.478**	0.8875	3.805	0.000	Significant
H3 i	HOS → LCS	0.457**	0.8984	3.598	0.001	Significant
H3 j	HOS → QTY	0.468**	0.8928	3.706	0.001	Significant
H3 k	HOS → DEL	0.388**	0.931	2.948	0.005	Significant
H3 l	HOS → FLX	0.408**	0.9224	3.125	0.003	Significant

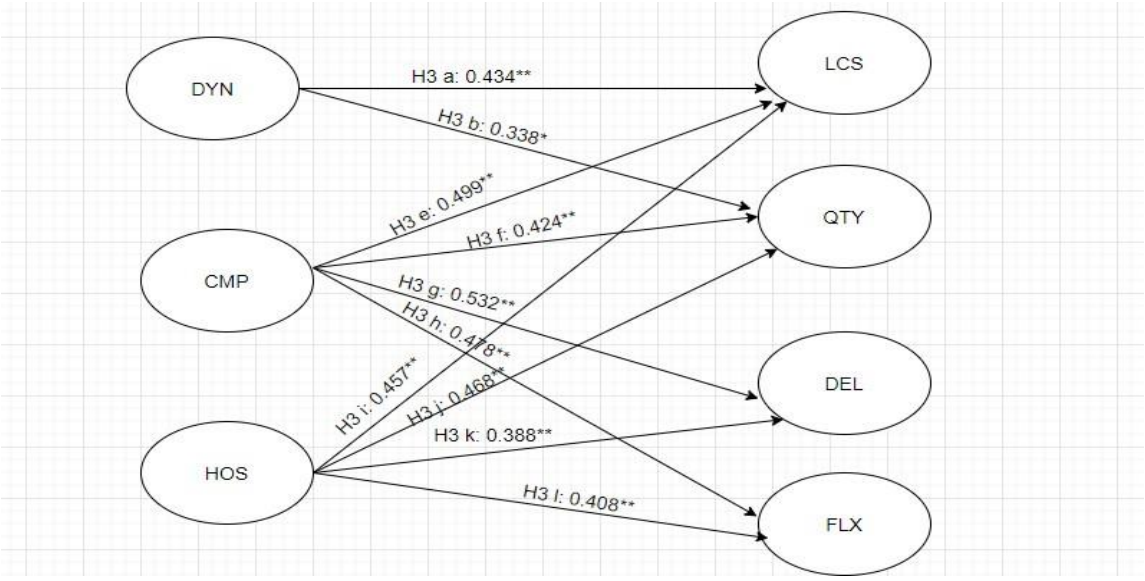

Figure 60: Diagram showing results summary for H3

Also, hypothesis 4 and its dimensions are summarized in table 211 and figure 61 below:

Table 211: Table Summary for H4 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result
H4	GEN → OPP	0.596**	0.8109	5.201	0.000	Significant
H4 a	CLS → LCS	0.507**	0.8708	4.115	0.000	Significant
H4 b	CLS → QTY	0.316*	0.9584	2.33	0.024	Significant
H4 c	CLS → DEL	0.282*	0.9693	2.055	0.045	Significant

H4 d	CLS → FLX	0.075	1.0073	0.526	0.601	Not Significant
H4 e	DIF → LCS	0.496**	0.8774	3.994	0.000	Significant
H4 f	DIF → QTY	0.55**	0.8433	4.616	0.000	Significant
H4 g	DIF → DEL	0.662**	0.7574	6.177	0.000	Significant
H4 h	DIF → FLX	0.509**	0.8696	4.137	0.000	Significant
H4 i	FOC → LCS	0.474**	0.8895	3.767	0.000	Significant
H4 j	FOC → QTY	0.386**	0.932	2.925	0.005	Significant
H4 k	FOC → DEL	0.46**	0.8967	3.631	0.001	Significant
H4 l	FOC → FLX	0.223	0.9848	1.598	0.117	Not Significant

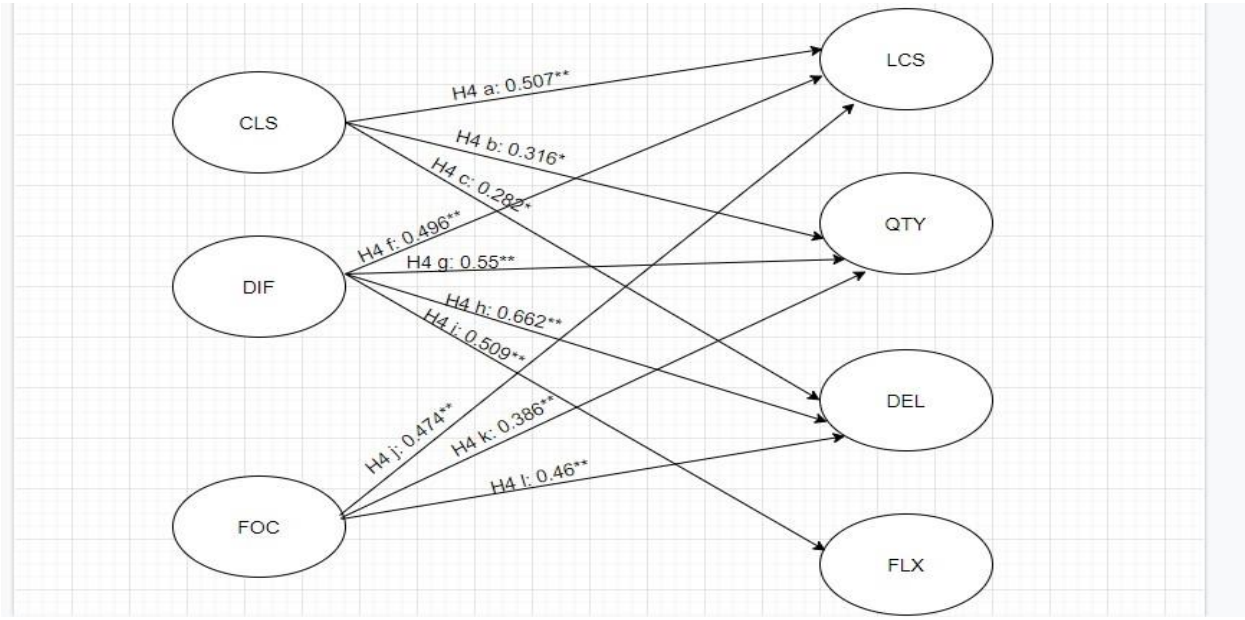

Figure 61: Diagram showing results summary for H4

Similarly, hypothesis 5 and its dimensions are summarized in table 212 and figure 62 below:

Table 212: Table Summary for H5 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result

H5	GEN → PER	0.572**	0.8284	4.884	0.000	Significant
H5 a	CLS → PER	0.505**	0.8721	4.091	0.000	Significant
H5 b	DIF → PER	0.439**	0.9077	3.419	0.001	Significant
H5 c	FOC → PER	0.555**	0.8403	4.669	0.000	Significant

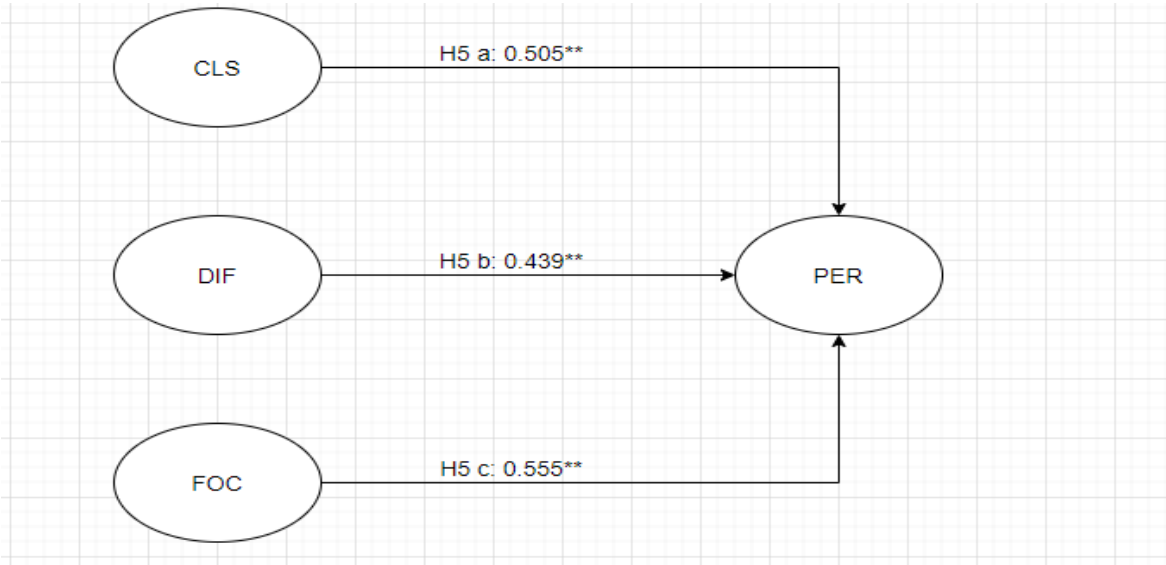

Figure 62: Diagram showing results summary for H5

Finally, hypothesis 6 and its dimensions are summarized in table 213 and figure 63 below:

Table 213: Table Summary for H6 and its dimensions

Hypothesis	Effect	Beta	Std. Error	T	P-value	Result
H6	OPP → PER	0.499**	0.8754	4.031	0	Significant
H6 a	LCS → PER	0.473**	0.8899	3.76	0	Significant
H6 b	QTY → PER	0.401**	0.9253	3.065	0.004	Significant
H6 c	DEL → PER	0.451**	0.9016	3.537	0.001	Significant
H6 d	FLX → PER	0.268	0.9731	1.949	0.057	Not Significant

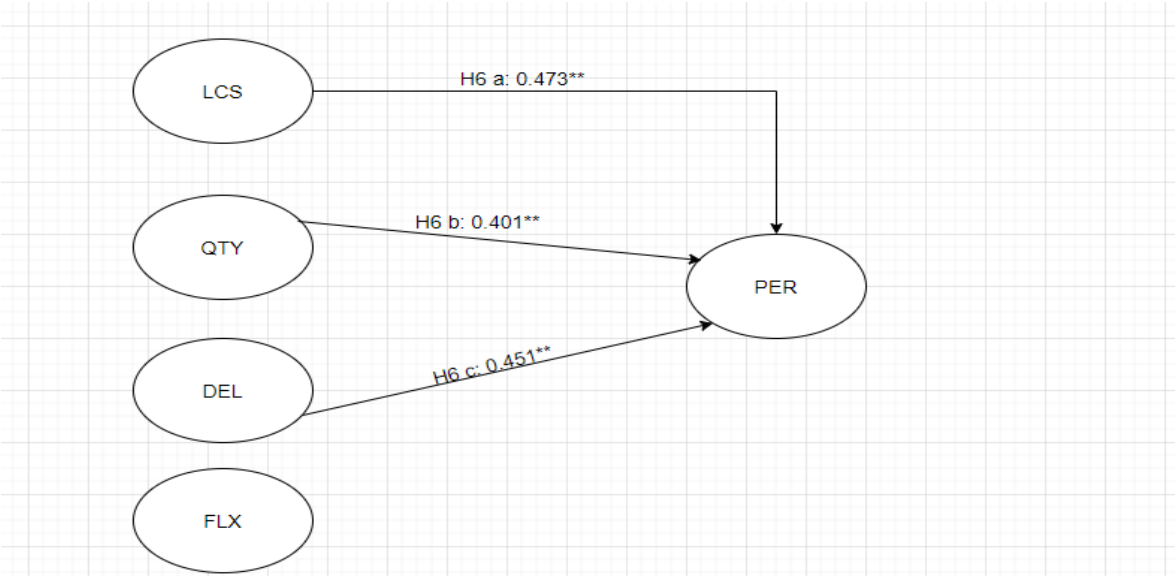

Figure 63: Diagram showing results summary for H6

4.5 Mediation Analysis

After studying the different effects between the variables, we will observe the effect of mediation.

4.5.1 Business Environment, Generic Strategy, and Operations Strategy

From the analysis above, in H3, we saw that there was a significant relationship between ENV and OPP, where beta or the total effect was 0.653**. Also, in H2, we saw that there was a significant relationship between ENV and GEN where beta (a) was 0.564**. We are going to see if generic strategy mediates the relationship between business environment and operations strategy. We are going to see the relationship between the dependent variable OPP, and the two independent variables ENV and GEN. After conducting SPSS, we will have the following tables:

Table 214: Model Summary for the relationship between the two independent variables ENV and GEN with the dependent variable OPP

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.709[a]	.503	.482	.7198

a. Predictors: (Constant), GEN, ENV

Table 215: ANOVA for the relationship between the two independent variables ENV and GEN with the dependent variable OPP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.127	2	12.564	24.245	.000[b]
	Residual	24.873	48	.518		
	Total	50.000	50			

a. Dependent Variable: OPP

b. Predictors: (Constant), GEN, ENV

Table 216: Coefficients for the relationship between the two independent variables ENV and GEN with the dependent variable OPP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.320E-017	.101		.000	1.000
	ENV	.464	.123	.464	3.765	.000
	GEN	.334	.123	.334	2.712	.009

a. Dependent Variable: OPP

From tables 214, 215, and 216, the model resulted in an R-Squared value of 0.503 indicating that the regression equation explained 50.3% of the variability in OPP. Also, the model confirms the significance of the relationship between the mediator GEN and the dependent variable OPP as the regression coefficient (b) is 0.334 which is the beta or the standardized coefficient; and the p-value is 0.009. Because the p-value is less than 0.05 (0.05 > 0.009), hence there is a significant effect between the dependent variable OPP and the independent variable GEN. We can also report that the F-statistics F (2, 48) = 24.245, and the t-statistics t (48) = 2.712. The results revealed that the relationship between the mediator GEN and the dependent variable OPP in the presence of the independent variable ENV is significant.

In addition, from the relationship between the independent variable ENV and the dependent variable OPP is significant because the p-value is 0.000 which is less than 0.05. Also, the beta or the standardized coefficient which is the Direct Effect (c) is 0.464. Also, we notice that the F-statistics F (2, 48) = 24.245, and the t-statistics t (48) = 3.765.

Accordingly, the results do support hypothesis H7 indicating that GEN mediate the relationship between ENV and OPP. Note that the indirect effect (c') of ENV on OPP is the product of the two coefficients ab = (0.564) * (0.334) =0.189. Also, it can be obtained by subtracting the total effect from the direct effect (c), which is equal to Total Effect – c = 0.653 – 0.464 = 0.189.

In addition, an extra step is done to confirm the mediation effect between ENV, GEN, and OPP. On SPSS, we generated a regression bootstrap which is called "Process" to double check the relationship between these variables. The results are shown below:

Table 217: Process analysis for the relationship between the independent variables ENV, the mediator GEN, and the dependent variable OPP

```
Run MATRIX procedure:

**************** PROCESS Procedure for SPSS Version 3.4.1
****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
***
Model  : 4
    Y  : OPP
    X  : ENV
    M  : GEN

Sample
Size:  51

**************************************************************************
***
OUTCOME VARIABLE:
 GEN

Model Summary
          R       R-sq        MSE          F        df1        df2
p
       .564       .318       .696     22.887      1.000     49.000
.000

Model
              coeff         se          t          p       LLCI
ULCI
constant       .000       .117       .000      1.000      -.235
.235
ENV            .564       .118      4.784       .000       .327
.801

**************************************************************************
***
OUTCOME VARIABLE:
 OPP

Model Summary
          R       R-sq        MSE          F        df1        df2
p
       .709       .503       .518     24.245      2.000     48.000
.000

Model
              coeff         se          t          p       LLCI
```

```
ULCI
constant        .000        .101        .000       1.000       -.203
.203
ENV             .464        .123       3.765        .000        .216
.712
GEN             .334        .123       2.712        .009        .086
.582

****************** DIRECT AND INDIRECT EFFECTS OF X ON Y
*****************

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .464       .123      3.765       .000       .216       .712

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
GEN       .189       .082       .036       .361

************************ 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 -----
```

The process analysis shows the relationship between the independent variable ENV, the mediator GEN, and the dependent variable OPP. We can see that the process bootstrap confirms that the relationship between ENV and GEN is significant where it is has a beta of 0.564 and p-value equal to 0.000 (< 0.05). In addition, from the process analysis above, we can see that the mediator GEN and the dependent variable OPP are significant because p-value = 0.009 which is less than 0.05 and has a beta of 0.334. Also, in the indirect effect between ENV and OPP, both the upper limit (0.361) and the lower limit (0.036) have the same sign which is an indication that the results are significant.

Also, there is a significant relationship between the independent variable ENV and the dependent variable OPP because the p-value = 0.000 which is less than 0.05 and has a

beta of 0.464. Also, we can notice that the lower limit (0.216) has the same sign as the upper limit (0.712) which is an indicator that the direct effect of both ENV and OPP is significant. The above results also confirm that the indirect effect between ENV and OPP is equal to 0.189 as we have shown above.

Therefore, hypothesis H7 is supported by the bootstrapping results that provided evidence of the significance of the indirect effect as the lower limit of the confidence interval for c' is 0.036 and the upper limit is 0.334.

Hence, we can see that direct effect between ENV and OPP is 0.464, while the indirect effect between ENV and OPP in the presence of the mediator GEN is 0.189. And both are significant. Thus, we can say that there is a partial mediation between ENV, GEN, and OPP.

The below figure can be shown as a summary for H7:

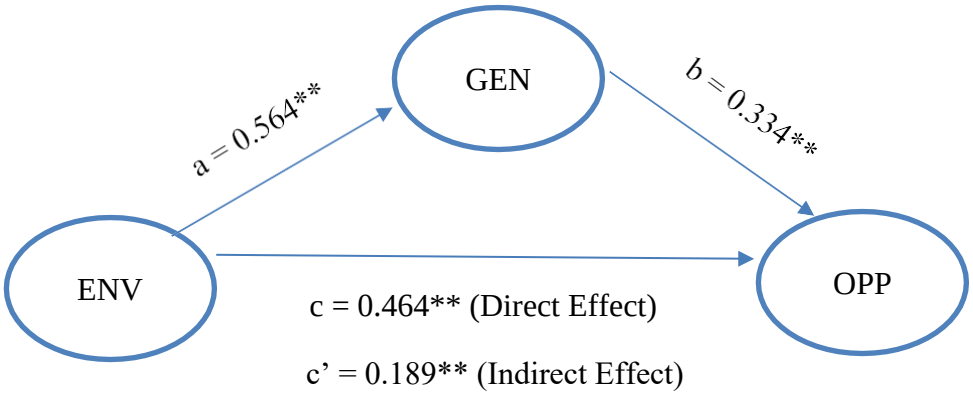

Figure 64: Diagram showing the mediation effect between the mediator GEN, the independent variable ENV, and the dependent variable OPP.

4.5.2 Business Environment, Generic Strategy, and Business Performance

From the analysis above, in H1, we saw that there was a significant relationship between ENV and PER, where beta or the total effect was 0.573**. Also, in H2, we saw that there was a significant relationship between ENV and GEN where beta (a) was 0.564**. We are going to see if generic strategy mediates the relationship between business environment and business performance. We are going to see the relationship between the dependent variable PER, and the two independent variables ENV and GEN. After conducting SPSS, we will have the following tables:

Table 218: Model Summary for the relationship between the two independent variables ENV and GEN with the dependent variable PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647[a]	.419	.395	.7779

a. Predictors: (Constant), GEN, ENV

Table 219: ANOVA for the relationship between the two independent variables ENV and GEN with the dependent variable PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.957	2	10.479	17.319	.000[b]
	Residual	29.043	48	.605		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), GEN, ENV

Table 220: Coefficients for the relationship between the two independent variables ENV and GEN with the dependent variable PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.090E-018	.109		.000	1.000
	ENV	.367	.133	.367	2.753	.008
	GEN	.365	.133	.365	2.742	.009

a. Dependent Variable: PER

From the tables above, the model resulted in an R-Squared value of 0.419 indicating that the regression equation explained 41.9% of the variability in PER. Also, the model confirms the significance of the relationship between the mediator GEN and the dependent variable PER as the regression coefficient (b) is 0.365 which is the beta or the standardized coefficient; and the p-value is 0.009. Because the p-value is less than 0.05 (0.05 > 0.009), hence there is a significant effect between the dependent variable PER and the independent variable GEN. We can also report that the F-statistics F (2, 48) = 17.319, and the t-statistics t (48) = 2.742. The results revealed that the relationship between the mediator GEN and the dependent variable PER in the presence of the independent variable ENV is significant.

In addition, from the relationship between the independent variable ENV and the dependent variable PER is significant because the p-value is 0.008 which is less than 0.05. Also, the beta or the standardized coefficient which is the Direct Effect (c) is 0.367. Also, we notice that the F-statistics F (2, 48) = 17.319, and the t-statistics t (48) =

2.753.

Accordingly, the results do support hypothesis H8 indicating that GEN mediate the relationship between ENV and PER. Note that the indirect effect (c') of ENV on PER is the product of the two coefficients ab = (0.564) * (0.365) =0.206. Also, it can be obtained by subtracting the total effect from the direct effect (c), which is equal to Total Effect – c = 0.573 – 0.367 = 0.206.

In addition, an extra step is done to confirm the mediation effect between ENV, GEN, and PER. On SPSS, we generated a regression bootstrap which is called "Process" to double check the relationship between these variables. The results are shown below:

Table 221: Process analysis for the relationship between the independent variables ENV, the mediator GEN, and the dependent variable PER

```
Run MATRIX procedure:

**************** PROCESS Procedure for SPSS Version 3.4.1
****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
***
Model  : 4
    Y  : PER
    X  : ENV
    M  : GEN

Sample
Size:  51

**************************************************************************
***
OUTCOME VARIABLE:
 GEN

Model Summary
          R       R-sq        MSE          F        df1        df2
p
       .564       .318       .696     22.887      1.000     49.000
.000
```

```
Model
              coeff         se          t          p       LLCI
ULCI
constant       .000       .117       .000      1.000      -.235
.235
ENV            .564       .118      4.784       .000       .327
.801

**************************************************************************
***
OUTCOME VARIABLE:
 PER

Model Summary
          R       R-sq        MSE          F        df1        df2
p
       .647       .419       .605     17.319      2.000     48.000
.000

Model
              coeff         se          t          p       LLCI
ULCI
constant       .000       .109       .000      1.000      -.219
.219
ENV            .367       .133      2.753       .008       .099
.635
GEN            .365       .133      2.742       .009       .097
.633

****************** DIRECT AND INDIRECT EFFECTS OF X ON Y
*****************

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .367       .133      2.753       .008       .099       .635

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
GEN       .206       .070       .079       .354

*********************** 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 -----
```

The process analysis shows the relationship between the independent variable ENV, the

mediator GEN, and the dependent variable PER. We can see that the process bootstrap confirms that the relationship between ENV and GEN is significant where it is has a beta of 0.564 and p-value equal to 0.000 (< 0.05). In addition, from the process analysis above, we can see that the mediator GEN and the dependent variable PER are significant because p-value = 0.009 which is less than 0.05 and has a beta of 0.365. Also, in the indirect effect between ENV and PER, both the upper limit (0.354) and the lower limit (0.079) have the same sign which is an indication that the results are significant.

Also, there is a significant relationship between the independent variable ENV and the dependent variable PER because the p-value = 0.008 which is less than 0.05 and has a beta of 0.367. Also, we can notice that the lower limit (0.099) has the same sign as the upper limit (0.635) which is an indicator that the direct effect of both ENV and OPP is significant. The above results also confirm that the indirect effect between ENV and OPP is equal to 0.206 as we have shown above.

Therefore, hypothesis H8 is supported by the bootstrapping results that provided evidence of the significance of the indirect effect as the lower limit of the confidence interval for c' is 0.079 and the upper limit is 0.354.

Hence, we can see that direct effect between ENV and OPP is 0.367, while the indirect effect between ENV and OPP in the presence of the mediator GEN is 0.206. And both are significant. Thus, we can say that there is a partial mediation between ENV, GEN, and PER.

The below figure can be shown as a summary for H8:

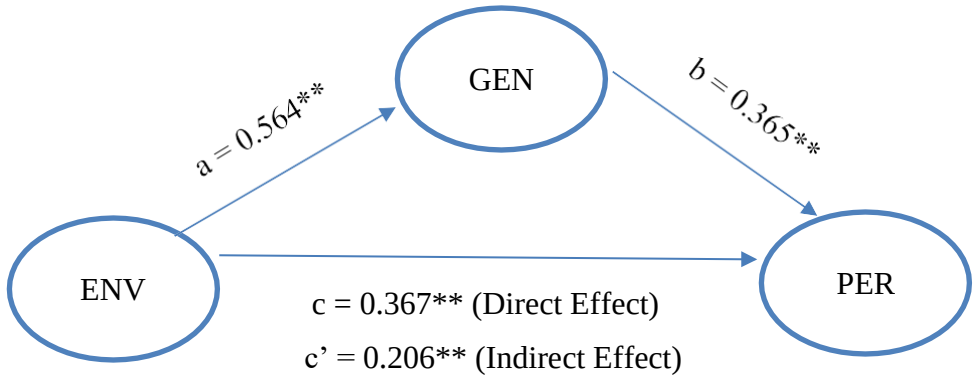

Figure 65: Diagram showing the mediation effect between the mediator GEN, the independent variable ENV, and the dependent variable PER.

4.5.3 Business Environment, Operations Strategy, and Business Performance

From the analysis above, in H1, we saw that there was a significant relationship between ENV and PER, where beta or the total effect was 0.573**. Also, in H3, we saw that there was a significant relationship between ENV and OPP where beta (a) was 0.653**. We are going to see if operations strategy mediates the relationship between business environment and business performance. We are going to see the relationship between the dependent variable PER, and the two independent variables ENV and OPP. After conducting SPSS, we will have the following tables:

Table 222: Model Summary for the relationship between the two independent variables ENV and OPP with the dependent variable PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.596[a]	.355	.329	.8194

a. Predictors: (Constant), OPP, ENV

Table 223: ANOVA for the relationship between the two independent variables ENV and OPP with the dependent variable PER

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.772	2	8.886	13.234	.000[b]
	Residual	32.228	48	.671		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), OPP, ENV

Table 224: Coefficients for the relationship between the two independent variables ENV and OPP with the dependent variable PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.332E-017	.115		.000	1.000
	ENV	.431	.153	.431	2.815	.007
	OPP	.218	.153	.218	1.424	.161

a. Dependent Variable: PER

From the tables above, the model resulted in an R-Squared value of 0.355 indicating that the regression equation explained 35.5% of the variability in PER. However, the model does not confirm the significance of the relationship between the mediator OPP and the dependent variable PER as the regression coefficient (b) is 0.218 which is the beta or the

standardized coefficient; and the p-value is 0.161. Because the p-value is more than 0.05 (0.161 > 0.05), hence there is no significant effect between the dependent variable PER and the independent variable OPP. We can also report that the F-statistics F (2, 48) = 13.234, and the t-statistics t (48) = 1.424. The results revealed that the relationship between the mediator OPP and the dependent variable PER in the presence of the independent variable ENV is not significant.

However, from the relationship between the independent variable ENV and the dependent variable PER is significant because the p-value is 0.007 which is less than 0.05. Also, the beta or the standardized coefficient which is the Direct Effect (c) is 0.431. Also, we notice that the F-statistics F (2, 48) = 13.234, and the t-statistics t (48) = 2.815.

Accordingly, the results do not support hypothesis H9 indicating that OPP does not mediate the relationship between ENV and PER. Note that the indirect effect (c') of ENV on PER is the product of the two coefficients ab = (0.653) * (0.218) =0.142. Also, it can be obtained by subtracting the total effect from the direct effect (c), which is equal to Total Effect – c = 0.573 – 0.431 = 0.142.

In addition, an extra step is done to confirm the mediation effect between ENV, OPP, and PER. On SPSS, we generated a regression bootstrap which is called "Process" to double check the relationship between these variables. The results are shown below:

Table 225: Process analysis for the relationship between the independent variables ENV, the mediator OPP, and the dependent variable PER

```
Run MATRIX procedure:
```

```
**************** PROCESS Procedure for SPSS Version 3.4.1
****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
***
Model  : 4
    Y  : PER
    X  : ENV
    M  : OPP

Sample
Size:  51

**************************************************************************
***
OUTCOME VARIABLE:
 OPP

Model Summary
          R       R-sq        MSE          F        df1        df2
p
       .653       .426       .585     36.412      1.000     49.000
.000

Model
              coeff         se          t          p       LLCI
ULCI
constant       .000       .107       .000      1.000      -.215
.215
ENV            .653       .108      6.034       .000       .435
.870

**************************************************************************
***
OUTCOME VARIABLE:
 PER

Model Summary
          R       R-sq        MSE          F        df1        df2
p
       .596       .355       .671     13.234      2.000     48.000
.000

Model
              coeff         se          t          p       LLCI
ULCI
constant       .000       .115       .000      1.000      -.231
.231
ENV            .431       .153      2.815       .007       .123
.738
OPP            .218       .153      1.424       .161      -.090
.526

****************** DIRECT AND INDIRECT EFFECTS OF X ON Y
```

```
*****************

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .431       .153      2.815       .007       .123       .738

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
OPP       .142       .082      -.025       .305

************************ 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 -----
```

The process analysis shows the relationship between the independent variable ENV, the mediator OPP, and the dependent variable PER. We can see that the process bootstrap confirms that the relationship between ENV and OPP is significant where it is has a beta of 0.653 and p-value equal to 0.000 (< 0.05). However, from the process analysis above, we can see that the mediator OPP and the dependent variable PER are not significant because p-value = 0.161 which is more than 0.05 and has a beta of 0.218. Also, in the indirect effect between ENV and PER, both the upper limit (0.305) and the lower limit (-0.025) have different signs which is an indication that the results are not significance.

On the hand, there is a significant relationship between the independent variable ENV and the dependent variable PER because the p-value = 0.007 which is less than 0.05 and has a beta of 0.431. Also, we can notice that the lower limit (0.123) has the same sign as the upper limit (0.738) which is an indicator that the direct effect of both ENV and PRF is significant. The above results also confirm that the indirect effect between ENV and PER is equal to 0.142 as we have shown above.

Even though hypothesis H9 is not supported, the bootstrapping results almost provided evidence of the significance of the indirect effect as the lower limit of the confidence interval for c' is - 0.025 and the upper limit is 0.305. This can be due to the small sample that we have under study.

The below figure can be shown as a summary for H9:

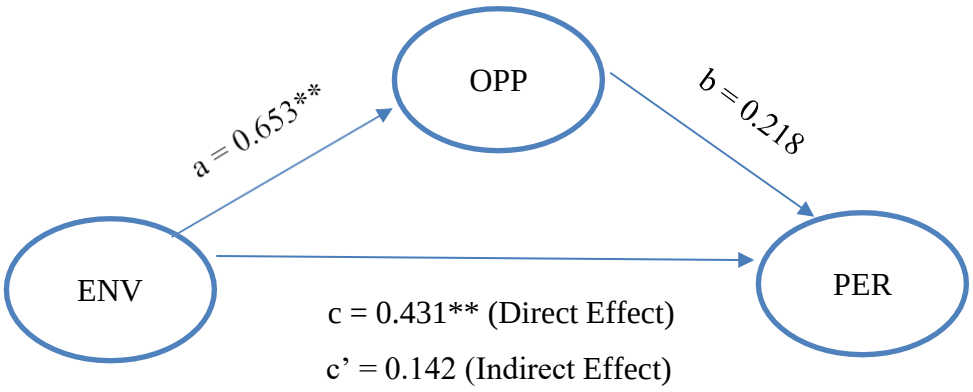

Figure 66: Diagram showing the mediation effect between the mediator OPP, the independent variable ENV, and the dependent variable PER.

4.5.4 Generic Strategy, Operations Strategy, and Business Performance

From the analysis above, in H5, we saw that there was a significant relationship between GEN and PER, where beta or the total effect was 0.572**. Also, in H4, we saw that there was a significant relationship between GEN and OPP where beta (a) was 0.596**. We are going to see if operations strategy mediates the relationship between generic strategy and business performance. We are going to see the relationship between the dependent variable PER, and the two independent variables GEN and OPP. After

conducting SPSS, we will have the following tables:

Table 226: Model Summary for the relationship between the two independent variables GEN and OPP with the dependent variable PER

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605[a]	.366	.340	.8126

a. Predictors: (Constant), OPP, GEN

Table 227: ANOVA for the relationship between the two independent variables GEN and OPP with the dependent variable PER

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.305	2	9.152	13.861	.000[b]
	Residual	31.695	48	.660		
	Total	50.000	50			

a. Dependent Variable: PER

b. Predictors: (Constant), OPP, GEN

Table 228: Coefficients for the relationship between the two independent variables GEN and OPP with the dependent variable PER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.251E-017	.114		.000	1.000
	GEN	.426	.143	.426	2.977	.005

OPP	.245	.143	.245	1.711	.094

a. Dependent Variable: PER

From tables 226, 227, and 228, the model resulted in an R-Squared value of 0.366 indicating that the regression equation explained 36.6% of the variability in PER. However, the model does not confirm the significance of the relationship between the mediator OPP and the dependent variable PER as the regression coefficient (b) is 0.245 which is the beta or the standardized coefficient; and the p-value is 0.094. Because the p-value is more than 0.05 (0.094 > 0.05), hence there is no significant effect between the dependent variable PER and the independent variable OPP. We can also report that the F-statistics F (2, 48) = 13.861, and the t-statistics t (48) = 1.711. The results revealed that the relationship between the mediator OPP and the dependent variable PER in the presence of the independent variable GEN is not significant.

However, from the relationship between the independent variable GEN and the dependent variable PER is significant because the p-value is 0.005 which is less than 0.05. Also, the beta or the standardized coefficient which is the Direct Effect (c) is 0.426. Also, we notice that the F-statistics F (2, 48) = 13.861, and the t-statistics t (48) = 2.977.

Accordingly, the results do not support hypothesis H10 indicating that OPP does not mediate the relationship between GEN and PER. Note that the indirect effect (c') of GEN on PER is the product of the two coefficients ab = (0.596) * (0.245) =0.146. Also, it can be obtained by subtracting the total effect from the direct effect (c), which is equal to Total Effect – c = 0.572 – 0.426 = 0.146.

In addition, an extra step is done to confirm the mediation effect between GEN, OPP,

and PER. On SPSS, we generated a regression bootstrap which is called “Process” to double check the relationship between these variables. The results are shown below:

Table 229: Process analysis for the relationship between the independent variables GEN, the mediator OPP, and the dependent variable PER

```
Run MATRIX procedure:

**************** PROCESS Procedure for SPSS Version 3.4.1
****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
***
Model  : 4
    Y  : PER
    X  : GEN
    M  : OPP

Sample
Size:  51

**************************************************************************
***
OUTCOME VARIABLE:
 OPP

Model Summary
          R       R-sq        MSE          F        df1        df2
p
       .596       .356       .658     27.046      1.000     49.000
.000

Model
              coeff         se          t          p       LLCI
ULCI
constant       .000       .114       .000      1.000      -.228
.228
GEN            .596       .115      5.201       .000       .366
.827

**************************************************************************
***
OUTCOME VARIABLE:
 PER

Model Summary
          R       R-sq        MSE          F        df1        df2
p
```

```
       .605       .366       .660     13.861      2.000     48.000
.000

Model
              coeff         se          t          p       LLCI
ULCI
constant       .000       .114       .000      1.000      -.229
.229
GEN            .426       .143      2.977       .005       .138
.714
OPP            .245       .143      1.711       .094      -.043
.533

****************** DIRECT AND INDIRECT EFFECTS OF X ON Y
*****************

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .426       .143      2.977       .005       .138       .714

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
OPP       .146       .085      -.019       .322

************************ 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 -----
```

The process analysis shows the relationship between the independent variable GEN, the mediator OPP, and the dependent variable PER. We can see that the process bootstrap confirms that the relationship between GEN and OPP is significant where it is has a beta of 0.596 and p-value equal to 0.000 (< 0.05). However, from the process analysis above, we can see that the mediator OPP and the dependent variable PER are not significant because p-value = 0.094 which is more than 0.05 and has a beta of 0.245. Also, in the indirect effect between GEN and PER, both the upper limit (0.322) and the lower limit (-0.019) have different signs which is an indication that the results are not significance.

On the hand, there is a significant relationship between the independent variable GEN and the dependent variable PER because the p-value = 0.005 which is less than 0.05 and has a beta of 0.426. Also, we can notice that the lower limit (0.138) has the same sign as the upper limit (0.714) which is an indicator that the direct effect of both GEN and PRF is significant. The above results also confirm that the indirect effect between GEN and PER is equal to 0.146 as we have shown above.

Even though hypothesis H10 is not supported, the bootstrapping results almost provided evidence of the significance of the indirect effect as the lower limit of the confidence interval for c' is -0.019 and the upper limit is 0.322. This can be due to the small sample that we have under study.

The below figure can be shown as a summary for H10:

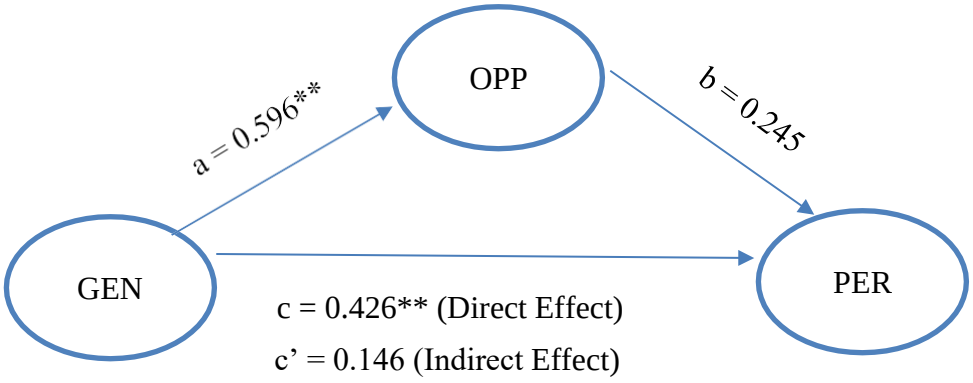

Figure 67: Diagram showing the mediation effect between the mediator OPP, the independent variable GEN, and the dependent variable PER.

From the above analysis, we have obtained our results. In the next chapter, we will discuss our results and compare them with the literature review.

Chapter 5

Discussion

5.1 Introduction

After studying the literature review in chapter 2, and after conducting our results in chapter 4, we will make a discussion analysis.

5.2 Direct Effect

5.2.1 Business Environment and Business Performance

In our research study analysis on the different industries in Lebanon, we obtained a positive effect between ENV and PER, where we obtained a beta of 0.573**, with a p-value = 0.000. In addition, we observed that each dimension under the business environment (environmental dynamism, environmental complexity, and environmental hostility) have a significant effect on PER, where environmental dynamism (0.365**) and environmental complexity (0.573**) were more significant than environmental hostility (0.35*).

Our result was like Zand and Rezaei (2020), Prajogo (2016), Gorondutse and Hilman (2017), Jogaratnam, Olsen, and Tse (1999), and Bausch, Rosenbusch, and Rauch (2013), where they also observed a significant effect between business environment and business performance.

On the other hand, some researchers did not find a significant effect between these two variables such as Eker and Eker (2019), Permana, Laksmana, and Ellitan (2017), and Low and Cheng (2006).

From our research results between these variables, we can see that the individuals in our sample that work in different Lebanese industries believed that their business environment and all its dimensions can highly affect the business performance.

5.2.2 Business Environment and Generic Strategy

In our research study analysis on the different industries in Lebanon, we obtained that there was a significant effect between business environment and generic strategy, where we obtained a beta of 0.564**, with a p-value = 0.000. Also, we studied the effects of the different dimensions of business environment on generic strategy. We observed that environmental dynamism was only significant with cost leadership strategy (0.301*). Environmental complexity was significant with all generic strategy's dimensions: cost leadership strategy (0.451**), differentiation strategy (0.615**), and focus strategy (0.491**). While environmental hostility was significant only with differentiation (0.4**) and focus (0.429**) strategies.

From past studies, a mix relationship between these variables' dimensions can be observed. Similar results to our results from past literature exist. For instance, Haleem (2020) and Ward, Bickford, and Leong (1996) observed that business environment is significant with generic strategy. Ellitan L. (2017) observed that environmental dynamism does not influence differentiation strategy.

However, the studies that contradicted our results exist. For instance, Ellitan L. (2017)

observed that environmental dynamism does not affect cost leadership strategy. Also, Ward and Duray (2000) observed that environmental dynamism has a direct effect on differentiation strategy while it does not have a significant effect on cost leadership strategy.

From our research results between these variables, we can see that the individuals in our sample that work in the different Lebanese industries believed that their business environment can highly affect generic strategy and showed how utilizing each strategy might differ depending on the business environment type. For instance, under environmental dynamism, individuals prefer to utilize cost leadership strategy more than differentiation and focus strategies. Under environmental hostility, individuals prefer to utilize differentiation and focus strategies more than cost leadership strategy. While under environmental complexity, any strategy that falls under generic strategy can be effective.

5.2.3 Business Environment and Operations Strategy

In our research study analysis on the different industries in Lebanon, we obtained that there was a significant effect between business environment and operations strategy, where we obtained a beta of 0.653**, with a p-value = 0.000. Also, we studied the effects of the different dimensions of business environment on operations strategy. We observed that environmental dynamism was only significant with Low-Cost (0.434**) and Quality (0.338*) strategies. Environmental complexity was significant with all operations strategy's dimensions: Low-Cost (0.499**), Quality (0.424**), Delivery (0.532**), and Flexibility (0.478**) strategies. While environmental hostility was also

significant with all operations strategy's dimensions: Low-Cost (0.457**), Quality (0.468**), Delivery (0.388**), and Flexibility (0.408**) strategies.

From past studies, a mix relationship between these variables' dimensions can be observed. Similar results to our results from past literature exist. For instance, Ellitan (2017) and Ward and Duray (2000) believe that environmental dynamism does not affect delivery and flexibility strategies. Also, Pagell (2004) believe that environmental dynamism does not affect flexibility strategy. Haleem (2020) observed that there was a significant effect between environmental hostility and both quality and flexibility strategies, and between environmental complexity and all other operations strategy's dimensions. Ward, Bickford, and Leong (1996) and Amoako-Gyampah (2003) believe that there was a significant relationship between business environment and operations strategy. Badri, Davis, and Davis (2000) believe that there was a significant relationship between environmental hostility and both quality and delivery strategies, and there was a significant relationship between both environmental dynamism and quality strategy. Duray, Leong, Sum, and Ward (1995) believe that there was a significant relationship between environmental hostility and deliver strategy, and between environmental dynamism and quality strategy. Wong, Boon-Itt, and Wong (2011) observed that in the presence of internal integration, environmental dynamism has a positive effect on both low-cost and quality strategies.

However, the studies that contradicted our results exist. For instance, Ellitan (2017) and Ward and Duray (2000) believe that environmental dynamism does not affect low-cost and quality straetegies. Also, Haleem (2020) and Newell and Swamidass (1987) believe that there was a significant effect between environmental dynamism and flexibility strategy. Badri, Davis, and Davis (2000) believe a significant relationship exist between

DYN and both delivery and flexibility strategies. Duray, Leong, Sum, and Ward (1995) observed that there was a significant effect between environmental dynamism with both delivery and flexibility strategies. Wong, Boon-Itt, and Wong (2011) observed that DYN has a positive effect on both delivery and flexibility strategies.

From our research results between these variables, we can see that the individuals in our sample that work in the different Lebanese industries believe that their business environment can highly affect the operations strategy and shows how utilizing each strategy might differ depending on the business environment type. For instance, under environmental dynamism, individuals prefer to utilize low-cost and quality strategies over delivery and flexibility strategies. While under environmental complexity and environmental hostility, any strategy that fall under operations can be effective.

5.2.4 Generic and Operations Strategies

In our research study analysis on the different industries in Lebanon, we obtained that there was a significant effect between generic and operations strategies, where we obtained a beta of 0.596**, with a p-value = 0.000. Also, we studied the effects of the different dimensions of generic strategy on operations strategy. We observed that cost leadership strategy is significant with low-cost (0.507**), quality (0.316*), and delivery (0.282*) strategies. Differentiation strategy was significant with all operations strategy's dimensions: Low-Cost (0.496**), quality (0.55**), delivery (0.662**), and flexibility (0.509**) strategies. While focus strategy was significant with low-cost (0.474**), quality (0.386**), and delivery (0.46**) strategies.

From past studies, a mix relationship between these variables' dimensions can be

observed. Similar results to our results from past literature exist. For instance, Haleem (2020), Ward, Bickford, and Leong (1996), and Skinner (1969) believe that there was a significant relationship between generic and operations strategies. Fawcett, Calantone, and Smith (1997) observed that there was a significant effect between FOC and DEL. Ellitan (2017) observed a significant effect between cost leadership strategy and both low-cost and quality strategies. Also, differentiation strategy has a significant effect on flexibility strategy. Ward and Duray (2000) observed that there was a significant relationship between differentiation strategy and all other operations strategy's dimensions. Also, a significant relationship existed between cost leadership and low-cost strategies. Amoako-Gyampah, and Acquaah (2008) also observed a significant effect between differentiation strategy and all other operations strategy's dimensions. And there was a significant effect between CLS with LCS, QTY, and DEL.

However, the studies that contradicted our results exist. For instance, Ellitan (2017) observed a significant effect between CLS and FLX, while CLS do not have a significant effect on DEL. Also, differentiation strategy does not have a significant effect on low-cost, quality, and delivery strategies. Amoako-Gyampah, and Acquaah (2008) observed that there was a significant effect between cost leadership and flexibility strategies.

From our research results between these variables, we can see that both generic and operations strategies are related by showing a significant result and a direct effect. Our individuals showed both cost leadership and focus strategies can affect low-cost, quality, and delivery strategies. While differentiation strategy can affect all strategies that fall under operations.

5.2.5 Generic Strategy and Business Performance

In our research study analysis on the different industries in Lebanon, we obtained that there was a significant effect between generic strategy and business performance, where we obtained a beta of 0.572**, with a p-value = 0.000. Also, we studied the effects of the different dimensions of generic strategy on business performance. We observed that all the generic strategy's dimensions have a significant effect on business performance: Cost leadership (0.505**), differentiation (0.439**), and focus (0.555**) strategies. From past studies, a mix relationship between these variables' dimensions can be observed. Similar results to our results from past literature exist. For instance, Islami, Latkorikj, and Mustafa (2020), Atikiya (2015), Wekesa (2015), and Nandakumar, Ghobadian, and O'Regan (2011) believe that GEN has a significant effect on PER. Ali, Khan, and Shaqri (2019), Ellitan (2017), Ahmad, Gutierrez- Gutierrez, and Munoz Rosas (2017), Gorondutse and Hilman (2017), and Ward, Bickford, and Leong (1996) believe that both DIF and CLS strategies have a significant effect on PER. Crespo, Fontes, and Simoes (2020), Eker, and Eker (2019), and Teeratansirikool, Siengthai, Badir, and Charoenngam (2013) believe that differentiation strategy affect business performance. Azeem, Parocha, Saboor, and Shakeel (2020) and Oyekunle, Abimbola, Windapo, Olabode, and James (2015) observed a significant relationship between CLS and PER. Baraza (2017) observed that both cost leadership and focus strategies have a significant effect on business performance.

However, the studies that contradicted our results exist. For instance, Ward and Duray (2000) and Amoako-Gyampah and Acquaah (2008) believe that both differentiation and cost leadership strategies do not have a significant effect on PER. Ahmad, Gutierrez-

Gutierrez, , and Munoz Rosas (2017) and Oyekunle, Abimbola, Windapo, Olabode, and James (2015) believe that FOC does not have a significant effect on PER. Eker, and Eker (2019) and Teeratansirikool, Siengthai, Badir, and Charoenngam (2013) believe that cost leadership strategy does not affect business performance. Baraza (2017) and Oyekunle, Abimbola, Windapo, Olabode, and James (2015) observed that differentiation strategy does not affect business performance.

From our research results between these variables, we can see that generic strategy and all its dimensions can have a positive effect on business performance.

5.2.6 Operations Strategy and Business Performance

In our research study analysis on the different industries in Lebanon, we obtained that there was a significant effect between operations strategy and business performance, where we obtained a beta of 0.499 **, with a p-value = 0.000. Also, we studied the effects of the different dimensions of operations strategy on business performance. We observed have low-cost (0.473**), quality (0.401**), and delivery (0.451**) strategies have a significant effect on PER, while flexibility strategy (0.268) is not significant. From past studies, a mix relationship between these variables' dimensions can be observed. Similar results to our results from past literature exist. For instance, Ellitan (2017) and Pagell (2004) observed that flexibility strategy has not significant effect with business performance. Badri, Davis, and Davis (2000) and Ward, Bickford, and Leong (1996) believe that there was a significant effect between operations strategy and business performance. Swink, Narasimhan, and Wang (2007) believe that QTY and DEL have a significant effect on PER. Ward and Duray (2000) observed that there was a

significant effect between QTY and PER, while there was no significant effect between FLX and PER. Duray, Leong, Sum, and Ward (1995) observed that there was a significant effect between quality and delivery strategies on business performance. Amoako-Gyampah and Acquaah (2008) observed a significant effect between QTY and PER, while there was no significant effect between FLX and PER. Oltra and Flor (2010) observed a significant effect between LCS and QTY on PER, while there was no effect between FLX and PER. Jeihoony, Jabarzadeh, Kumar, and Garza-Reyes (2020) observed that QTY had a significant effect on PER.

However, findings that contradicted our results exist. For instance, Ellitan (2017) observed that low-cost, quality, and delivery strategies have no effect on business performance. Jeihoony, Jabarzadeh, Kumar, and Garza-Reyes (2020), Uman and Sommanawat (2019), Chang, Cheong, Sheu, and Yang (2003) and Newell and Swamidass (1987) observed that flexibility strategy had a significant effect on business performance. Ward and Duray (2000) observed that there was no significant effect between low-cost and delivery strategies with PER. Duray, Leong, Sum, and Ward (1995) observed that there was no significant effect between low-cost strategy and PER, but there was a significant effect between flexibility strategy and PER. Amoako-Gyampah and Acquaah (2008) observed that there was no significant effect between low-cost and delivery strategies with PER. Oltra and Flor (2010) observed that there was no effect between delivery strategy on business performance. Also, operations strategy did not have a significant impact on business performance. Jeihoony, Jabarzadeh, Kumar, and Garza-Reyes (2020) observed that low-cost and delivery strategies did not have a significant effect on business performance.

From our research results between these variables, we can see that operations strategy

had a significant effect on business performance are significant. All the operations strategy's dimensions had a significant effect on PER except flexibility strategy.

5.3 Mediation Effect

5.3.1 Business Environment, Generic Strategy, and Operations Strategy

In our research study analysis on the different industries in Lebanon, we obtained that there was a partial mediation between business environment, generic strategy, and operations strategy. In this model, the mediator was the generic strategy, and independent variable was business environment, and the dependent variable was the operations strategy. We obtained that both the direct effect (0.464**) and the indirect effect (0.189**) were significant.

In the literature review, few studies had observed that mediation effect of these three variables. For instance, Ward and Duray (2000) noticed full mediation between these variables, where the direct effect was insignificant, while the indirect effect was significant. However, Ellitan (2017) remarked no mediation between these variables, where there was insignificant effect between business environment and generic strategy.

5.3.2 Business Environment, Generic Strategy, and Business Performance

In our research study analysis on the different industries in Lebanon, we obtained that there was a partial mediation between business environment, generic strategy, and business performance. In this model, the mediator was the generic strategy, the independent variable was business environment, and the dependent variable was the business performance. We obtained that both the direct effect (0.367**) and the indirect

effect (0.206**) were significant.

In the literature review, few studies had observed that mediation effect of these three variables. For instance, Li (2001) observed that generic strategy (differentiation strategy) mediates the relationship between business environment and business performance. However, Ellitan (2017) noticed that there was no mediation between these variables since business environment had an insignificant effect with generic strategy (cost leadership and differentiation strategies). Also, Ward and Duray (2000) remarked that there was no mediation between these variables since generic strategy (cost leadership and differentiation strategies) had insignificant effect on business performance.

5.3.3 Business Environment, Operations Strategy, and Business Performance

In our research study analysis on the different industries in Lebanon, we obtained that there was no mediation between business environment, operations strategy, and business performance. In this model, the mediator was the operations strategy, the independent variable was business environment, and the dependent variable was the business performance. We obtained that the direct effect (0.431**) was significant, while the indirect effect (0.142) was insignificant.

In the literature review, few studies observed no mediation effect of these three variables. For instance, Ellitan (2017) observed that operations strategy did not have any relationship with either environmental dynamism or business performance. Hence, operations strategy did not act as a mediator between environmental dynamism and business performance. Also, Ward and Duray (2000) observed that operations strategy did not have a strong relationship with environmental dynamism. Even though

operations strategy had a strong influence on business performance, it could not act as a mediator between environment dynamism and PER. Also, Pagell (2004) noticed an insignificant relationship between DYN and FLX. Also, there was no significant relationship between FLX and PER. Therefore, operations strategy did not act as a mediator between DYN and PER.

However, other studies showed a mediation effect between these variables. For instance, Newell and Swamidass (1987) observed that FLX mediated the relationship between DYN and PER. Also, Badri, Davis, and Davis (2000) noticed that operations strategy mediated the relationship between DYN and firms with high or low business performance.

Even though our results showed no mediation, we believe that this is due to the small sample size that we have. The bootstrapping results almost provided evidence of the significance of the indirect effect as the lower limit of the confidence interval for c' is -0.025 and the upper limit is 0.305. This can be due to the small sample that we have under study.

5.3.4 Generic Strategy, Operations Strategy, and Business Performance

In our research study analysis on the different industries in Lebanon, we obtained that there was no mediation between generic strategy, operations strategy, and business performance. In this model, the mediator was the operations strategy, the independent variable was generic strategy, and the dependent variable was the business performance. We obtained that the direct effect (0.426**) was significant, while the indirect effect (0.146) was insignificant.

In the literature review, few studies observed no mediation effect of these three variables. For instance, Ellitan (2017) witnessed that operations strategy did not act as a mediator between generic strategy and business performance because operations strategy did not have a strong relationship with the business performance.

However, other studies showed a mediation effect between these variables. For instance, Swink, Narasimhan, and Wang (2007), and Ward and Duray (2000) observed a full mediation between these three variables.

Even though our results showed no mediation, we believe that this is due to the small sample size that we have. The bootstrapping results almost provided evidence of the significance of the indirect effect as the lower limit of the confidence interval for c' is -0.019 and the upper limit is 0.322.

In the final chapter, we will summarize all the relevant key points that had been said in our paper. Also, we will list the limitations and future studies that can be conducted.

Chapter 6

Conclusion

6.1 Introduction

This chapter consists of summary of the research, addressing research objectives, presenting theoretical contributions of the research, as well as the limitations and the future research work.

6.2 Summary

There are two main objectives for the study. The first objective is to observe the interactions of business environment (environmental dynamism, environmental complexity, environmental hostility), generic strategy (cost leadership, differentiation, and focus strategies), operations strategy (cost, quality, delivery, and flexibility strategies) and business performance (financial and non-financial performance) in the presence of the COVID-19 in the Lebanese economy. In our second objective, we detected if generic and operations strategies could mediate and give a significant effect between business environment and business performance in the presence of the COVID-19.

The literature review guided us to understand the four major variables in our study which are the business environment, generic strategy, operations strategy, and business performance. Also, it gave us better understanding on each dimension under each

variable and helped us observe the difference between each variable. The dimension in our study that fall under business environment were environmental dynamism, environmental complexity, and environmental hostility. The dimensions that fall under generic strategy are cost leadership, differentiation, and focus strategies. The dimensions that fall under operations strategy are low-cost, quality, delivery, and flexibility strategies. Finally, the dimensions that fall under business performance are financial and non-financial performance. In addition, the literature endorsed a close relationship between our variables and three theories which are contingency, strategic management, and resource-based view theory.

Based on the conceptual model, ten hypotheses were developed to test the different impact between our four variables. The first six hypotheses focused on the direct effect between each variable. While the last four hypotheses focused on the mediation effect of both generic and operations strategies. The above proposed hypotheses can help us detect the different effects between our variables, and if there exist a mediation effect. In hypothesis one (H1), we tested the relationship between business environment and business performance. In addition, we analyzed each business environment dimension on business performance: environmental dynamism on business performance (H1 a), environmental complexity on business performance (H1 b), environmental hostility on business performance (H1 c). In hypothesis two (H2), we examined the effect of business environment on generic strategy. Also, we investigated the effect of each dimension on each other: environmental dynamism on cost leadership strategy (H2 a), environmental dynamism on differentiation strategy (H2 b), environmental dynamism on focus strategy (H2 c), environmental complexity on cost leadership strategy (H2 d), environmental complexity on differentiation strategy (H2 e), environmental complexity

on focus strategy (H2 f), environmental hostility on cost leadership strategy (H2 g), environmental hostility on differentiation strategy (H2 h), and environmental hostility on focus strategy (H2 i). In hypothesis three (H3), we checked the effect of business environment on operations strategy. Then, we investigated the relationship between each dimension of these variables: environmental dynamism on low-cost strategy (H3 a), environmental dynamism on quality strategy (H2 b), environmental dynamism on delivery strategy (H2 c), environmental dynamism on flexibility strategy (H2 d), environmental complexity on low-cost strategy (H3 e), environmental complexity on quality strategy (H2 f), environmental complexity on delivery strategy (H2 g), environmental complexity on flexibility strategy (H2 h), environmental hostility on low-cost strategy (H3 i), environmental hostility on quality strategy (H2 j), environmental hostility on delivery strategy (H2 k), and environmental hostility on flexibility strategy (H2 l). In hypothesis four (H4) we tested the effect of generic strategy on operations strategy. Also, we examined the effects of each of their dimensions: cost leadership and low-cost strategies (H4 a), cost leadership and quality strategies (H4 b), cost leadership and delivery strategies (H4 c), cost leadership and flexibility strategies (H4 d), differentiation and low-cost strategies (H4 e), differentiation and quality strategies (H4 f), differentiation and delivery strategies (H4 g), differentiation and flexibility strategies (H4 h), focus and low-cost strategies (H4 i), focus and quality strategies (H4 j), focus and delivery strategies (H4 k), and focus and flexibility strategies (H4 l). In hypothesis five (H5), we evaluated the relationship between GEN and PER. Then, we examined the effect of each of their dimensions: cost leadership strategy on business performance (H5 a), differentiation strategy on business performance (H5 b), and focus strategy on business performance (H5 c). Finally, in hypothesis six (H6), we examined the

relationship of operations strategy on business performance. Also, we tested operations strategy's dimension on business performance: low-cost strategy on business performance (H6 a), quality strategy on business performance (H6 b), delivery strategy on business performance (H6 c), and flexibility strategy on business performance (H6 d). Moreover, in hypothesis seven (H7), we tested if generic strategy mediates the relationship between the independent variable business environment with the dependent variable operations strategy. In hypothesis eight (H8), we examined if generic strategy mediates the relationship between the independent variable business environment with the dependent variable business performance. In hypothesis nine (H9), we investigated if operations strategy mediates the relationship between the independent variable business environment with the dependent variable business performance. Finally, in hypothesis ten (H10), we analyzed if operations strategy mediates the relationship between the independent variable generic strategy with the dependent variable business performance. Following the hypothesis, we collected our data for the Lebanese individuals that work in the different industries in Lebanon using an online questionnaire via google forms. About sixty participants have participated in this study, but we were only able to get the responses of fifty-one participants since the other participants did not complete the questionnaire. Then, we tested our data via reliability and factor analysis using the SPSS package. After we got a significant result from these tests, we tested the relationship and mediation between our variables utilizing SPSS and process.

6.3 Research Objectives

As stated above, there are two main goals for the research. The first aim was observing

the interactions of business environment, generic strategy, operations strategy, and business performance, with their dimensions, in the presence of the COVID-19 in the Lebanese economy. We observed interesting results from the tested hypotheses. For instance, the direct effect of each variable was significant: business environment on business performance, business environment on generic strategy, business environment on operations strategy, generic strategy on operations strategy, generic strategy on business performance, and operations strategy on business performance. On another note, the dimensions' interaction was changed depending on the other variable. For instance, each dimension under the business environment (environmental dynamism, environmental complexity, and environmental hostility) had a significant effect on PER, where DYN and CMP were more significant than HOS. Also, environmental dynamism was only significant with cost leadership strategy. Environmental complexity was significant with all generic strategy's dimensions: cost leadership, differentiation, and focus strategies. While environmental hostility was significant only with differentiation and focus strategies. In addition, environmental dynamism was only significant with low-cost and quality strategies. Environmental complexity was significant with all operations strategy's dimensions. While environmental hostility was also significant with all operations strategy's dimensions. Also, cost leadership strategy is significant with LCS, QTY, and DEL. Differentiation strategy was significant with all operations strategy's dimensions. While focus strategy was significant with LCS, QTY, and DEL. In addition, all generic strategy's dimensions had a positive effect on PER. Moreover, low-cost, quality, and delivery strategies had a significant effect on business performance, while flexibility strategy (0.268) was not significant.

In our second objective, we detected if generic and operations strategies could mediate

and give a significant effect between ENV and PER in the existence of the COVID-19. We observed a partial mediation between generic strategy (mediator), business environment (independent variable) and operations strategy (dependent variable), and between generic strategy (mediator), business environment (independent variable) and business performance (dependent variable). This can show how utilizing cost leadership, differentiation, or focus strategies can be more effective than utilizing the different dimensions under operations strategy and can be relevant to increase business performance in the presence of a changing business environment in the Lebanese economy.

6.4 Contribution of the Research

We can also relate the above results to the three theories that we discussed from the literature review part (chapter two) which are contingency theory, strategic management theory, and resource-based view theory.

Under the contingency theory, we saw in our results how the business environment played a significant role on both generic and operations strategies, and on business performance. For instance, all business environment dimensions played a significant role on business performance. Also, we saw how under environmental dynamism, cost leadership, low-cost, and quality strategies were preferred by the participants. Under environmental complexity, cost leadership, differentiation, focus, low-cost, quality, delivery, and flexibility strategies were preferred. While under environmental hostility, differentiation, focus, low-cost, quality, delivery, and flexibility strategies were preferred. This shows how the business environment can play an effective role on

deciding which strategy is best to utilize depending on the business environment.

Under strategic management theory, we saw in our results how the generic strategy played a significant role on both operations strategy and business performance. For instance, cost leadership, differentiation, and focus strategies played a significant role on business performance. This shows how the different generic strategy's dimensions can help a firm achieve a competitive advantage and achieve a higher business performance in the Lebanese industries. In addition, generic strategy showed a partial mediation between business environment and operations strategy, and between business environment and business performance. This also shows the importance of utilizing generic strategy in a firm, since it can help a firm achieve competitive advantage and accomplish higher business performance.

Under resource-based view theory, we observed in our results how both generic and operations strategies can lead to higher business performance in the presence of different situations. One way to explain this relation is how the participants in our study were able to utilize their company's resources efficiently and effectively by utilizing the right strategies which made them achieve high business performance under different business environment conditions.

6.5 Limitations

The study, like any other study, has limitations. First, since the study was conducted without any funding, only Lebanese employees were selected for this study. Hence, the only method that was utilized in this research was an online survey. Second, the results of the study cannot be generalized for reasons such as political, economic, social, socio-

cultural, specific business environment, and technological factors. Third, we must note that not only financial and non-financial performance fall under business performance. For instance, operational performance and innovation performance fall under business performance. We only limited our study to these two dimensions. Fourth, our data sample is very small. We only have 51 participants in our study. This might be one of the reasons why operations strategy did not act as a mediator between business environment and business performance or between generic strategy and business performance. Fifth, most of our participants were low level employees. We did not have top managers or CEOs as our participants where they can increase the credibility of the data collected. Sixth, the duration limit for the study was only one month. Seventh, participants should not be disturbed from their surroundings and they should have the needed time to complete their survey. Since the questionnaires were submitted and completed online, we were not sure in what conditions the participants completed them.

6.6 Future Research

More research should be done on the interactions between business environment, generic strategy, operations strategy, and business performance, especially in the Lebanese economy. Since strategies and the business environment are continuously changing with time, researchers should continuously observe the effect of our four variables. This model should be continuously repeated more than once with time. For future studies, we recommend researchers to utilize new methods with the surveys, like making interviews. In addition, the current study observed the effect of our four variables in the different Lebanese industries in the presence of COVID-19. It would be

interesting to compare these results in situations where we do not have COVID-19. Also, our study investigated the inter-relationship effect between our variables in different industries. Hence, it would be interesting to observe the effect of our variables if we segment and target one specific industry and be more focused such as the banking or food industry in Lebanon. In addition, we can add new variables to our study such as supply chain integration and innovation strategies. Past literature showed that these variables can be added to our model, so it would be interesting to see how they affect and interact with the other variables.

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Appendices

Appendix One: Letter of Introduction

I would like to invite you to participate in a research project by completing the following questionnaire. I am a student at the Lebanese American University, and I am completing this research project as part of my graduate study. The purpose of this questionnaire aims to observe the effects of Business Environment, Generic Strategies, Operations Strategies, Supply Chain Integration, and Innovation Strategies in the Optimization of Business Performance in the presence of COVID-19.

There are no known risks, harms, or discomforts associated with this study beyond those encountered in normal daily life. The information you provide will be used to enhance and improve our understanding of the relationship of these variables in your working sector. You will not directly benefit from participation in this study. The study will involve around 50 participants. Completing the survey will take 15 minutes of your time.

By continuing with the questionnaire, you agree with the following statements:

1. I have been given sufficient information about this research project.

2. I understand that my answers will not be released to anyone and my identity will remain anonymous. My name will not be written on the questionnaire nor be kept in any other records.

3. When the results of the study are reported, I will not be identified by name or any other information that could be used to infer my identity. Only researchers will have access to view any data collected during this research however data cannot be linked to me.

4. I understand that I may withdraw from this research any time I wish and that I have the right to skip any question I don’t want to answer.

5. I understand that my refusal to participate will not result in any penalty or loss of benefits to which I otherwise am entitled to.

6. I have been informed that the research abides by all commonly acknowledged ethical codes and that the research project has been reviewed and approved by the Institutional Review Board at the Lebanese American University

7. I understand that if I have any additional questions, I can ask the research team listed below.

8. I have read and understood all statements on this form.

9. I voluntarily agree to take part in this research project by completing the following Questionnaire.

If you have any questions, you may contact:

Name (PI)	Phone number	Email address
Ziad Ghazal	71/487031	ziad.ghazal98@gmail.com

If you have any questions about your rights as a participant in this study, or you want to talk to someone outside the research, please contact the:

Institutional Review Board Office,

Lebanese American University

3rd Floor, Dorm A, Byblos Campus

LAU.SOB.AK2.29/Jan/2021

Tel: 00 961 1 786456 ext. (2546)

irb@lau.edu.lb

This study has been reviewed and approved by the LAU IRB:

LAU.SOB.AK2.29/Jan/2021

Do you wish to proceed in filling the survey?

Yes

No

Appendix Two: Demographics

1. Gender:

- Male
- Female
- Prefer not to say.

2. Age

- 18-25
- 26-30
- >30

3. City of Residence:

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4. Highest degree of education

- Primary school
- Secondary school
- High school
- Bachelor's degree
- Master's degree
- Doctorate degree
- No education

5. In what industry you work?

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6. What is your role in your company?

Appendix Three: Questionnaire

Section A. Business Environment

Kindly indicate, in your opinion, the level of importance of the following items concerning the "Business Environment" with respect to your company where 1=very unimportant; 2= unimportant; 3=neither unimportant nor important; 4=important; 5=very important.

1. BUSINESS ENVIRONMENT CHARACTERISTICS						
Item	Sub Item	Rating (unimportant) 12345 (very important)				
Complexity	Degree of specialized knowledge about customers	1	2	3	4	5
	Degree of specialized knowledge about products	1	2	3	4	5
	Degree of specialized knowledge about technology	1	2	3	4	5
	The degree of segmentation within major end-use markets	1	2	3	4	5
	The complexity of supply chain	1	2	3	4	5
Dynamism	Rate at which products and services become outdated	1	2	3	4	5
	Rate of innovation of new operations processes	1	2	3	4	5
	Rate of changes in customer needs in your industry	1	2	3	4	5
	Rate of emergence of new challenges from competitors	1	2	3	4	5
	Rate of information diffusion (spread)	1	2	3	4	5
Hostility	Importance of producing to the customers quality requiremen	1	2	3	4	5
	Importance of unreliable supplier quality	1	2	3	4	5
	Importance of rising business costs	1	2	3	4	5
	Importance of shortage of labor	1	2	3	4	5
	Intensity of competition in market	1	2	3	4	5
	Profit margins	1	2	3	4	5

Section B. Generic Strategy

Kindly indicate your agreement or disagreement with the following items concerning generic strategy with respect to your company where 1=strongly disagree; 2= disagree; 3=neither disagree nor agree; 4=agree; 5=strongly agree.

2. COMPETETIVE STRATEGIES						
Item	Sub Item	Rating (strongly disagree) 12345 (strongly agree)				
Cost Leadership	Our organization does costing of all products and services	1	2	3	4	5
	Our organization maximizes on profitability through cost reduction strategies	1	2	3	4	5
	Our organization improves on production/service delivery process to cut on waste and duplicat	1	2	3	4	5
	Our organization minimizes cost through innovation	1	2	3	4	5
	Our organization has optimum level of personnel	1	2	3	4	5
	Our organization emphasizes on efficiency	1	2	3	4	5
	Our organization emphasizes on time management	1	2	3	4	5
	Our organization continuously trains staff on effective resource utilization	1	2	3	4	5
Differentiation	Our organization offers products/services with unique characteristics	1	2	3	4	5
	Our organization creates and maintains products/services with appealing features	1	2	3	4	5
	Our organization does research to match products/services with customer needs	1	2	3	4	5
	Our organization offer products/services at affordable prices	1	2	3	4	5
	Our organization always strives to lead in product/service delivery in our sector	1	2	3	4	5
	Our organization always keeps our customers always aware of our product/service attributes	1	2	3	4	5
Focus	Our organization understands its focus and mandate	1	2	3	4	5
	Our organization always updates its mandate in line with changes in the market	1	2	3	4	5
	Our organization specializes on its target market	1	2	3	4	5
	Our organization always strives to remain in its market	1	2	3	4	5
	Our organization always reviews changes in the niche market	1	2	3	4	5

Section C. Operations Strategy

Kindly indicate, in your opinion, the level of importance for the following items concerning the "operations strategy" with respect to your company where 1=very unimportant; 2= unimportant; 3=neither unimportant nor important; 4=important; 5=very important.

3. OPERATIONS STRATEGY						
Item	Sub Item	Rating (unimportant) 12345 (very important)				
Cost	Low overhead cost	1	2	3	4	5
	Low inventory costs	1	2	3	4	5
	Lowest production cost	1	2	3	4	5
	Increase labor productivity	1	2	3	4	5
	Increase capacity utilization	1	2	3	4	5
Quality	High performance of products	1	2	3	4	5
	consistent quality of products	1	2	3	4	5
	Reliable products	1	2	3	4	5
	Durable (long life) products	1	2	3	4	5
	High customized products	1	2	3	4	5
Delivery	Short delivery time	1	2	3	4	5
	Correct quantity with right kind of products	1	2	3	4	5
	Delivery on due date (ship on time)	1	2	3	4	5
	Fast delivery	1	2	3	4	5
	Reduce customer order taking time	1	2	3	4	5
Flexibility	Frequent design changes or new product introduction	1	2	3	4	5
	Product variety	1	2	3	4	5
	Rapid volume changes	1	2	3	4	5
	Adjust capacity quickly	1	2	3	4	5
	Offer a large number of product features	1	2	3	4	5

Section D. Business Performance

Please specify your company's level of performance in terms of:

(Poor = 1, Fair = 2, Good = 3, Very Good = 4, Excellent = 5) over the past three years.

4 FINANCIAL PERFORMANCE					
Item	Rating (unimportant) 12345 (very important)				
Profit Growth	1	2	3	4	5
Sales Growth	1	2	3	4	5
Profit Margin	1	2	3	4	5
Return on Assets (ROA)	1	2	3	4	5
Return on Investment (ROI)	1	2	3	4	5
6.2 NON-FINANCIAL PERFORMANCE					
Item	Rating (unimportant) 12345 (very important)				
High customer satisfaction	1	2	3	4	5
High employee Satisfaction	1	2	3	4	5
High employee Retention	1	2	3	4	5
High Market Share	1	2	3	4	5
Low employee turnover	1	2	3	4	5