



**Improving Small and Medium Enterprise (SMA)
Performance Through Supply Chain Collaboration,
Joint Planning and Supply Chain Abilities**

by

**Archanaa A/P Padmanathan
2033433102**

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**IMPROVING SMALL AND MEDIUM ENTERPRISE (SMA) PERFORMANCE
THROUGH SUPPLY CHAIN COLLABORATION, JOINT PLANNING AND
SUPPLY CHAIN ABILITIES**

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LIST OF ABBREVIATIONS

SME	Small and Medium Enterprise
SCC	Supply Chain Collaboration
JP	Joint Planning
SCA	Supply Chain Abilities

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Meningkatkan Prestasi Perusahaan Kecil dan Sederhana (PKS) Melalui Kerjasama Rantai Bekalan, Perancangan Bersama dan Kebolehan Rantai Bekalan

ABSTRAK

Dekad yang lalu telah menyaksikan minat yang semakin meningkat dalam kepentingan strategik untuk menyepadukan pembekal, pengilangdan pelanggan. Atas sebab ini, integrasi rantai bekalan telah menarik perhatian kedua-dua penyelidik dan pengamal sama. Walaupun terdapat kajian yang dijalankan untuk memberikan lebih banyak pandangan tentang bidang ini, masih ada keperluan untuk lebih memahami tanggapan dan amalan integrasi rantai bekalan terutamanya apabila semakin meningkat persaingan memberi tekanan kepada firma. Namun, setakat ini, penyiasatan empirikal tentang kesan anteseden ini terhadap prestasi perusahaan kecil dan sederhana (PKS) kurang mendapat perhatian. Objektif utama kajian ini adalah untuk mengisi kekosongan ini dengan menyiasat pengaruh integrasi rantai bekalan, perancangan kerjasama, dan keupayaan rantai bekalan mengenai daya saing PKS dan prestasi firma dalam kawasan daerah perbandaran Sedibeng. Kajian ini menggunakan kaedah kuantitatif. Sampel data daripada 300 PKS dikumpul untuk analisis data akhir melalui analisis faktor pengesahan (CFA) dan persamaan struktur pemodelan (SEM) menggunakan pakej perisian statistik AMOS 22.0. Penemuan utama kajian ini mendedahkan bahawa integrasi rantai bekalan, perancangan kolaboratif dan rantai bekalan keupayaan mempunyai kesan ke atas prestasi PKS. Penemuan ini memberi kepercayaan kepada tanggapan bahawa dengan melabur pada alatan penyepaduan bekalan, dengan merancang secara kolaboratif.

Improving Small and Medium Enterprise (SME) Performance through Supply Chain Collaboration, Joint Planning and Supply Chain Abilities

ABSTRACT

The past decade has seen a growing interest in the strategic importance of integrating suppliers, manufacturers and customers. For this reason, supply chain integration has attracted the attention of both the researchers and practitioners alike. Whilst there have been studies conducted to provide more insight into this area, there remains a need for more understanding of the notion and practice of supply chain integration especially as increasing competition puts pressure on firms. Yet, so far, the empirical investigation of the impact of these antecedents on small and medium enterprise (SME) performance has received little attention. The main objective of this study is to fill this void by investigating the influence of supply chain integration, collaborative planning, and supply chain capabilities on SME competitiveness and firm performance in the Sedibeng municipal district area. The study employs a quantitative method. Sample data from 300 SMEs collected for the final data analysis by means of confirmatory factor analysis (CFA) and structural equation modelling (SEM) using AMOS 22.0 statistical software package. The principal finding of this study reveals that supply chain integration, collaborative planning and supply chain capabilities have an impact on SME performance. These findings lend credence to the notion that by investing on supply integration tools, by planning collaboratively and by developing supply chain capabilities, SMEs can improve their own performance.

CHAPTER 1 : INTRODUCTION

1.1 Overview

The first chapter of this research project opens with background of the study and further describes to improve small and medium enterprise (SME) performance through supply chain integration, joint planning and supply chain collaboration. This is followed by the problem statement, research questions, research objectives, research gaps, significant of the study, scope and limitation.

1.2 Background of The Study

Supply chain collaboration (SCC) is defined as “the formation of near, lengthy-term partnerships wherein supply chain members works together and percentage information, sources, and threat to perform shared targets” (Cao & Zhang, 2011). SCC is one of the maximums not unusual norms for plenty groups round the world (Ramanathan & Gunasekaran, 2014). Collaboration encourages all contributors within the deliver chain to participate in making plans, facts sharing, forecasting, replenishment, incentive sharing and aid sharing (Ramanathan; Hudnukar et al., 2014). Furthermore, the software of SCC able to reduce down the running charges (Adams et al., 2014), improve in decisions execution (Swink et al. 2007; Kim & Lee 2010), and beef up the provision of time-and-area utility to the consumer (Randall et al. 2010). In a conventional supply chain, the go with the flow of materials and statistics are linear and is restrained in phrases of collaboration and visibility (Qu & Yang, 2015). Each supply chain accomplice has constrained facts concerning every

other. Therefore, the principle focus of SCC is to control resources and collaborative conduct across partnering companies in a supply chain efficiently (Hudnukar et al.,2014). Nowadays, increasingly more groups have started to coordinate their production and distribution channels and collaborate with supply chain partners as opposed to dealing with their internal resources on my own (Baraldi et al., 2012). In the context of small and medium-sized manufacturers (SMEs), cost-effective SCC method is crucial for their survival and increase. There is a controversy surrounding the advantage which SMEs can derive from SCC. However, studies evidence that SMEs can absolutely advantage from SCC (Rezaei et al., 2015). For example, Zeng, et al. (2010) discovered that inter-corporation partnership has the vastest high-quality impact at the firm overall performance in an examine of Chinese manufacturing companies. Furthermore, SCC provides SMEs with get entry to complete and outside information that may guide them to remedy business issues and permit them to engage in mastering networks. For example, a success SCC can be proven via marketplace proportion, market share (Mishra & Shah, 2009) and also the pleasure of deliver chain companions. Therefore, destiny collaboration tasks will in particular based at the achievement of present-day collaborative partnership (Ramanathan & Gunasekaran, 2014). In a comparable vein, Eyaa et al. (2010) performed a take a look at in SMEs in Uganda, a developing country to reveal the perceived benefits of SCC to SMEs. The have a look at suggests that information sharing and incentive alignments had been determined considerably related to deliver chain performance. Another study by Katunzi and Zheng (2010) on Tanzania's SMMs showed that collaboration with supply chain companions capable of provide neighborhood SMMs the danger to make collective agreements in amount planning, call for and shipping time to clients. Whereas, virtual supply chain is important in

facilitating short-term business collaborations. This research paper discusses on the important factors based on operation.

1.3 Problem Statement

The studies indicates that communication is a key tool making sure the efficiency of supply chain cooperation as perceived seriously with the aid of the SME. The study makes several contributions. First, it informs the debate about the links between SC, Planning, and SME performance (Bari Musabelliu, 2020) Besides, organisation conversation is becoming more popular and efficient for partners in the supply chain due to the participation of more than one staffs inside the projects and the problems want to be mentioned and agreed amongst them. Although they have excellent effects on SME's overall performance, as an example in transport proportion and technical potential, the deeper sorts of interplay which include alternate of personnel, dedicated sources investment become no longer discovered inside the cooperation. (Arsalan Hussain' 2020).

Generally, the SME perceives that the usual difficulties they confront are much less bargaining electricity, limitations to fulfill new demands from customers and the converting in customers' choices. (Rohail Hassan, 2020) Therefore, by carefully analyzing the characteristics of the SME's we suggest possible solutions through supply chain integration, increase joint planning and improve supply chain abilities.

1.3.1 Supply Chain Collaboration

Based on O'Leary-Kelly and Flores (2020) collaboration refers returning to the question of how well different entities function together collectively to reach similarly suitable results. Stevens and Johnson (2016) says that SCC is the linkage and similarities of humans, procedures, records, expertise, and techniques across the deliver chain in order to make the job easier in productive flows of products, asset, information, and understanding in

reaction to patron desires'. Supply chain collaboration entails both understanding and fabric, and can't be limited to simplest one (Prajogo & Olhager, 2011). Supply chain collaboration requires integration and teamwork either inside the company among different departments or features or throughout the supply chain community among the diverse supply chain partners (Flynn, Huo & Zhao, 2010).

Huang, Yen and Liu (2019) posit that for supply chain coordination to be powerful and green, it requires the combination of all product waft methods. A nicely-integrated deliver chain is characterized via the aid providers provide to every different and dedication to optimise their courting (Lazzarini, Claro & Mesquita, 2008). Tsinoopoulos and Mena (2017) pressure that powerful supply chain relationships depend upon the ability of the deliver chain contributors to layout and shape their integration systems and methods. Yet Stevens and Johnson (2016) argue that supply chain integration is not just about era however consists of governance, company shape, systems, courting control, commercial enterprise strategy, technique design, and overall performance management.

1.3.2 Joint Planning

According to Ramanathan and Gunasekaran (2018), for supply chains to be effective, planning, selection decision and implementation have to emerge as essential elements of collaboration. Li, Kumar and Lim (2020) define collaborative planning (CP) as a manner of joint decision making for assisting plans of person supply chain partners that allows you to reach a few coordination many of the companions through which current interdependencies can be diagnosed.

Coordination differs from coordination in that integration shows an interactive, joint selection making technique, in which divide supply chain participants influence each other's

choices extra without delay which will enhance standard reacting whereas integration refers specially to a unbroken items and data glide of the participants inside a deliver chain with the goal to maximise aggressive advantage. (Moharana, Murty, Senapati & Khuntia, 2012). A well- coordinated and incorporated supply chain will to a huge number of serve as a counter-degree for the bullwhip effect, which might be distortions within the deliver chain induced in particular through order fluctuations.

However, because of high product range, increased competition and unstable customer demand creating perfect plans to fulfill the demand and their goals can be a difficult challenge, in particular for SMEs. (Rickard & Ritsert, 2011). Creating a responsive supply chain preferably requires reliable forecasts (Kaipia, Dukovska-Popovska & Loikkanen, 2013). However, sharing information based on resources and forecasts might allow supply chain participants plan their operations higher and more strategically (Jonsson & Mattsson, 2013).

By supplying standardised data and organising goal plans, collaborative making plans is considered price-creating for the consumer, which improves standard supply chain performance (Hollmann, Scavarda & Thomé, 2015). Previous studies have proven that organisations collaborate to proportion resources and information, as an instance, to layout items, provide customer support or proportion laptop programmes access the deliver chain (Vereecke & Muylle, 2006). In this regard, (Pooe & Mathu, 2011) posit that collaborative planning in supply chains have to take area frequently.

1.3.3 Supply Chain Capabilities

Supply chain abilities (SCA) are described because the identification, use, and adjustment of both internal and outside assets and statistics by way of businesses to facilitate the entire sports of the supply chain (Wu, Yeniyurt, Kim & Cavusgil, 2006). Liu, Srari and Evans (2016) outline SCC as bundles of SCM competencies, understanding, routines and capabilities which are evolved over a time period via complex interactions, both inside a company and with its network companions with which the firm can coordinate SCM. Such abilities and abilities consist of, among others, manufacturing making plans, managing deliver chain features which include transportation, procurement, warehousing, stock control, and logistics (APICS 2015).

Supply chain talents may be categorised into performance and efficacy-associated abilities (Chen, Daugherty & Roath, 2009). These competencies make a contribution closer to corporations achieving proper lower performance of logistic value (Wu, Mahajan Balasubramanian, 2003), at the same time as taking into consideration relationships with supply chain companions to be maintained as companies reply to consumer necessities (Kim, Cavusgil & Calantone, 2016). This method that once SMEs or companies broaden a strong relationship with their providers, they will percentage not only a few dangers should improve the overall performance regarding supply chain.

The literature additionally distinguishes among dynamic functionality and operational functionality. On the one hand, operational capability refers to a firm's capability to perform, execute and coordinate the various responsibilities inclusive of distribution, logistics and advertising campaigns (Liu, Ke, We & Hua, 2013). Thus, this partly reflects the company's capacity to reply to market adjustments (Inan & Bititci, 2015). To enhance and

improve their overall performance SMEs need to bear in mind the reliable talents by using both integrating, participating or sharing their plans with their providers (Liu et al., 2013). Krishnapriya and Baral (2014) opine that companies want to expand inter-organisational talents that combine a company with its supply chain partners to create and supply price for the firm. In view of this, deliver chain information abilities had been cautioned as a supply of competitive gain (Park, Fujimoto & Hong, 2017).

1.3.4 Firm Performance

Based on the study, firm performance is the outcome reflects variable more than one self- suggested measures of firm overall performance (Richard, Devinney, Yip & Johnson, 2009). The firm's overall performance has generated a high-quality deal of interest from pupils and different choice makers (Alpkan, Yilmaz & Kaya, 2017; Sandada, Poe & Dhurup, 2014). Due to growing opposition, pressure to reduce lead instances, and the dangers related to a much less dependable customers, SME owners and bosses are an increasing number of worried by means of their overall performance and the way it's miles controlled (Bahri, St- Pierre & Sakka, 2010).

The most important concern is that although in principle, many overall performances size gear are valid, they infrequently bear in mind the major variation between small and medium enterprise and large firms, thereby resulting inside the negative adoption of overall performance dimension practices in SMEs (Ahmad & Alaskari, 2013). Referring the problem in accumulating legitimate performance facts from SMEs and the reluctance of SME proprietors to proportion real overall performance data (Gronum, 2015), non-monetary overall performance measures had been used in the look at. The self-said used non-financial

measures have been additionally justified in other studies (Chow & Van der Stede, 2016; Tapinos, Dyson & Meadows, 2015).

1.4 Research Questions

The research question is related to the area of the study that this paper going to discuss throughout this research. All the research questions are related towards the improvement of SME performance through supply chain integration, joint planning and supply chain capabilities. These are the following questions which going to conduct in this study;

- i. Is supply chain integration corresponds to the improvement of SME performance?
- ii. Is joint planning responds to the improvement of SME performance?
- iii. Is supply chain capabilities related to the improvement of SME performance?

1.5 Research Objectives

Over years has visible a building interest inside the strategic importance of integrating suppliers, manufacturers and customers. For this cause, supply chain integration has attracted the eye of each the researchers and practitioners alike. Whilst there were studies carried out to offer extra insight into this area, there stays a want for extra knowledge of the belief and exercise of deliver chain integration specially as increasing opposition places strain on companies. Yet, to this point, the empirical research of the impact of those antecedents on small and medium agency (SME) overall performance has acquired little attention.

The primary objective of this takes a look on way of investigating the impact of supply chain integration, collaborative planning, and supply chain capabilities on SME competitiveness and firm overall performance in East Coast Area.

- i. To identify the corresponding relationship between supply chain integration and firm performance.
- ii. To determine that joint planning has a significant influence on the SME performance.
- iii. To show that supply chain capabilities have a similar influence on SME performance.

1.6 Research Gap

The whole idea of the improvement of firm performance through supply chain collaboration, joint planning and supply chain capabilities are approached by many researchers in different manners. Some have made their ideas based on IOR's technologies. As the world moves towards technology, some of the world's most leading governments have already announced their plans for the next generation of small and medium enterprises supply chain collaboration. Yet, Malaysia is still suffering in the term of knowledge gap and empirical gap. Various authors have conducted their research mannerly only in the term of supply chain collaboration levels, concern and reviews. Besides, the seriousness goes improving SME performance through supply chain management and collaboration is still zero in numbers. There are two settings where a knowledge gap might occur. First, knowledge may not exist in the actual field to theories and literature from related research domains. Second, it might be the case that results of a study differs from what was expected. Empirical gap (evaluation void) is a type of gap that deals with gaps in the previous research.

This conflict deals with the research findings or propositions need to be evaluated or empirically verified. For example, the empirical gap often addresses conflicts that no study to date has directly attempted to evaluate a subject or topic from an empirical approach. In order to this field of research, a number of authors have conducted their researches particularly only in the term of importance of smart factories and its elements in case of technology emergence but the approaches that can be applicable to Malaysian manufacturing industries is zero in number. Furthermore, the literature studies in the term of optimize product capacity is quite difficult to identify due to low existing research on it.

1.7 Scope / Limitations

The scope of this study is to clearly identify and show the importance of improving SME performance through main 3 collaboration ideas. By implementing the 3 main factors (supply chain collaboration, joint planning, and supply chain abilities) operational management will be more easily handled by small and medium enterprises. The answer to this problem may appear to be difficult or hard. Yet, a good survey and study will be useful for the future producers and also researchers. So, this study would like to take the opportunity to cover the accounting field by propose the forecasting of cost structures of every possible approach that going to discuss in this study. The limitations for this study are the references to this area of study is quite minimal and experts never much concentrate on the approaches that can applicable with small and medium enterprise in future.

1.8 Significant of Study

This research is going to help the other and future small and medium enterprises to be generally have a good collaboration. Supply chain and operational management is the

foundation of a business. So, by doing create analysis SME can make more profit efficiently. This research will also be beneficial in enhancing the expertise for SME and firm performance. In addition, it will also provide them with an opportunity to increase the research on inventory management techniques or other closely related topics.

1.9 Conclusion

In overall, this first chapter mainly explains the scope and object of this study. The background of this study, problem statement, research questions, research objectives, research gap, scope and limitation of this study have been explained in detail to provide a clear understanding about the importance of virtual supply chain collaboration in facilitating small and medium manufacturers based on operational management factors.

CHAPTER 2 : LITERATURE REVIEW

2.1 Introduction

I would like to update a theory involved in Supply Chain Management in my study. The theory which related to my study is Resources-Based View (RBV). This theory stipulates that the designing of the supply management process should be based on the resources which are available to the company. Furthermore, this chapter contains the conceptual and theoretical of this study. The independent variables in this study is focusing on three major factors which is supply chain integration, joint planning and supply chain capabilities. The dependent variable of this study is SME performance. It is also review on the firm development by having collaboration with supply chain and planning collaboration with various SMEs'. Besides that, based on the previous studied the definition, concepts and clear exploitations are reviewed and discussed in this chapter as well.

2.1.1 Small and Medium Enterprise (SME)

According to Ayyagari, Demircuc-Kunt and Maksimovic (2011), the time period SME includes a diversity of definitions and measures that modify across countries and sources reporting SME data. In South Africa, the National Small Business Amendment Act (2014) defines an SME as any enterprise with fewer than 200 personnel, where one with fewer than 50 employees is deemed small, and between 50 and 200, medium sized. In addition, with the aid of meaning, firm's annual turnover may not exceed R5 million, and that the firm owners are involved without delay inside the everyday control of their corporations. SMEs are further classified with the aid of the world or small region to which

they belong. Time and once more, studies have proven the pivotal function performed by means of SMEs within the creation of employment and wealth, innovation, and in the discount of poverty (Aremu & Adeyemi, 2017; Memba, Gakure & Karanja, 2012; Prajogo, 2007). Furthermore, SMEs were described as vital for financial growth and development in maximum economies because of their ability to reply and regulate to environmental changes and technological orientation (Adams, Khoja & Kauffman, 2012). A vibrant and flourishing SME region is an essential signal of a growing financial system (Chinomona & Pooe, 2013).

Sadly, GEM (2012) reports a regular finding that the price of organizing businesses South Africa. 3% stays the second one lesser in the global in contrast with the 8% price in other comparable nations. It is also anticipated that the SME contribution to gross home product (GDP) in South Africa stands at forty 5%, is one of the lowest inside the global. The failure of SMEs to flourish in South Africa may be attributed to more than a few of things, along with confined marketplace get right of entry to and limited integration with other corporations (UNDP, 2014). Moreover, in Malaysia SME Corp. Malaysia promote and coordinates the improvement of various development programs and initiatives to help SMEs enhance their competitiveness, innovate, achieve higher level performance, raise productivity and gain access to international markets. Thus, it became observed essential to look into the effect of deliver chain integration, firm collaborative planning, and supply chain skills on SME performance.

2.2 Dependent Variable

Dependent variable refers to the subject that need to be measure in the study and will affected during the study (Helmenstine, 2018). The dependent variable responds to the independent variable. Therefore, in this study the dependent variable is warehouse efficiency.

2.2.1 Small and Medium Enterprise (SME) performance

Several of the existing literature, consisting of Saleh and Ndubisi (2016); Samad (2017); Abu Bakar et al. (2016); Aris (2016); Harvie (2014); Wang (2013); Stuti (2015); Wafa et al. (2005); Ritchie & Brindley (2000); Decker et al. (2006); Foon (2016); and SMIDEC (2007), emphasize various demanding situations going through SMEs in a globalized environment, for example from issue in going through recession, barrier from international sourcing, low productiveness, lack of managerial competencies, lack of financing, difficulty in having access to management and generation, heavy regulatory burden and others.

In the other look at, Teoh and Chong (2008) found the limitations to entrepreneurship specifically loss of get admission to credit score and shortage of get entry to formal business and social networks. Besides, SMEs are handling intensified international challenges, new emerging technology in ICT and production technique as well as growing element charges, which have an effect on the export competitiveness. SMEs are classified into 3 different categories in step with their capability and their success strolling through the demanding situations. Firstly, a set of SMEs this is possible or able to come to be across the world aggressive, may also gain the enjoy the regionalization (McMahon, 2001). The second organization is SMEs which are less adaptable to the globalization strain. They are unlikely to live on inside the present state of affairs without making speedy flow to enhance productiveness, to conform to global standards, to train and hire ability management and professional staff to stand competitions. The 0.33 organization is SMEs that are protected by means of the authorities from the globalization impact (Samad, 2007).

Whereas, the previous researches are most focused on the problems and sources of the impact. Nevertheless, in this research paper enhanced the solution to improve SMEs' collaboration in supply chain management and joint planning. My study is on empirical gap has given an overview analysis of challenges and competitiveness of Malaysia's SMEs. Although it's not reflected the empirical study of SMEs in Malaysia, but at least it contributes an important study by adding more literature regarding SME's from Malaysia perspective.

2.3 Independent Variable

According to Helmenstine (2019) an independent variable refers to the variable is changed in a research study. Independent variable represents the reason or cause for an outcome. Hence, in this research the independent variables are focus on inventory management practices which are inventory re-order point, inventory control, supplier partnership management and information technology.

2.3.1 Supply Chain Collaboration (SCC)

As the definition and previous research analysis are already explain clearly in problem statement, my literature review regarding supply chain integration going to be more specific on the supply chain collaboration relationship with firm performance. I have used situational study which is one of the knowledge gaps in this independent variable. The relationships among supply chain collaboration and company overall performance have been a topic of hobby via several researchers. The purpose for this is the growing requirement for corporations to integrate with several commercial companions, internal company sections, commercial enterprise procedures and various clients across the deliver chain (Kotcharin, Eldridge & Freeman, 2017). Cannon et al., (2018) note that the higher the integration level

the higher the higher the company performance could be, and the better corporations will respond to their business demanding situations strategically, operationally, and technologically.

Being progressive and embracing new opportunities will also cause advanced company growth (Van der Vaart & Van Donk, 2018). In this regard, Huang et al. (2017) located of them examine that there was an advantageous and good sized courting between SCI and dealer overall performance, and that uncertainty in demand may also reasonably weaken the relationship. In their take a look at of manufactures in The Netherlands and Spain, Gimenez et al. (2018) determined that deliver chain collaboration increase the performance provided deliver complexity is high, even as a very confined or no effect of deliver chain integration can be detected in cases of low deliver complexity. Beheshti et al. (2015) also discovered that business enterprise delivers chain integration led to a higher degree of monetary performance for organizations. Other research has additionally found a comparable significant and high-quality dating among SCC and firm performance (e.G. Huo, Han, Zhao, Zhou, Wood & Zhai, 2018; Swink, Narasimhan & Wang, 2017; Xu, Huo & Sun, 2014). In view of the foregoing, the subsequent speculation is formulated:

H1: There is a corresponding relationship between supply chain collaboration and firm performance

2.3.2 Joint Planning (JP)

Similarly, this part of the literature review going to be more specific on relationship between joint planning (independent variable) and firm performance (dependent variable). Here, I clearly used applied studies from previous research to Previous research stated that

provider collaboration facilitates firms reduce transaction price and procurement dangers so they can gain their competitive positions (Kohli & Jensen, 2014; Sheu, Yen & Chae, 2016). In their study of the function of partnership in deliver chain performance, Ryu, So and Koo (2019) discovered a nice relationship among collaboration and performance. Cao & Zhang (2018) located that green and powerful joint practices is an essential determinant of overall performance enhancement from providers. Similarly, of their study of the German automotive industry, Wiengarten, Humphreys, Cao, Fynes and McKittrick (2020) located a high-quality and massive dating between collaborative practices and firm overall performance. In view of the above, the subsequent speculation is posited:

H2: *Collaborative planning has a positive influence on firm performance.*

2.3.3 Supply Chain Abilities (SCA)

Supply chain abilities (SCA) consist of absorb to long-term relationship; fostering collaborative communication; designing and the use of go-practical groups; and joining supply- chain companions to create and deliver strategic fee to clients and different stakeholders (Lado, Paulraj & Chen, 2018). Empirical studies on SCA have typically investigated the affiliation of corporations' abilities with their aggressive benefits and/or performance (Armstrong & Shimizu, 2017; Newbert, 2017; Ray, Barney & Muhanna, 2014). In their study on dynamic capabilities in supply chains, Cheng, Chen and Huang (2014) located those dynamic skills have a high-quality impact on inter-organizational innovation performance. According to Lintukangas, Hallikas, Koivisto-Pitkänen and Kähkönen (2016), SCA are organizational-level property that could have an impact on competitiveness and performance. Accordingly, it's far hypothesized that:

H3: *Supply chain abilities have a positive influence on firm performance.*

2.4 Research Framework

The research framework will provide clearer view on this research project and it will help to easily understand about the purpose of this overall study. The research framework of this study shown in Figure 2.1.

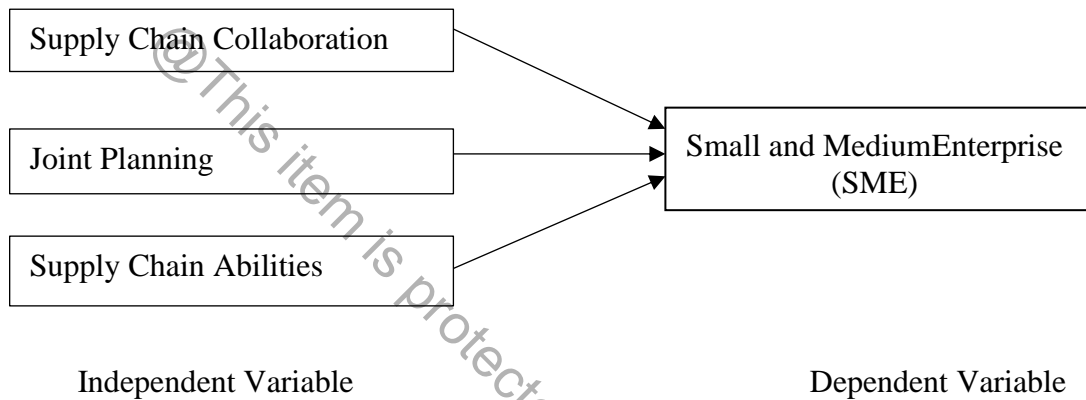


Figure 2.1 Research Framework

The version is taken from the hypothesized relationships between constructed studies. These are the relationships that examined and developed later. In the conceptualized studies version, supply chain collaboration, joint planning, supply chain abilities are the independent variables whilst company overall performance is posited to be the final results variable.

2.5 Summary

In this chapter, based on previous researches the researcher has provided those concepts and clear explanations of the dependent variable and independent variable. The supply chain collaboration, joint planning and supply chain abilities are the independent variable to study in this research project. While the dependent variable of this study is SME performance. The researcher believed that those explanations of dependent variable and independent variable can provide very good understanding and depth knowledge on this study.

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CHAPTER 3 : METHODOLOGY

3.1 Introduction

The purpose of this chapter is to discuss the design of this research methodology. In this chapter, the research design, population and sampling, methods used for data collection, data analysis procedure and credibility of the data are explained in detail. The aim of this section is to indicate how the research was conducted throughout the study periods.

3.2 Research Design

Quantitative research entails the gathering of uncooked facts from a large sample length so one can generalize effects to a more populace (Moutinho & Hutcheson, 2017). Moreover, studies on quantitative permit for statistic exams and estimates about relationships between studies constructs in addition to discover inferences about the defined target populace (SMEs). Thus, the survey technique become considered appropriate for the prevailing take a look at on the grounds that statistics turned into accumulated by using a questionnaire from a relatively big sample (Mal, 2018).

This research project is a quantitative based method which using secondary data approach that depends solely on existing data in the course of the research process. The research methods involve the collection of quantitative data (external sources of data) from existing data sources in non -government resources, research reports and institutions of learning. The motive to use secondary data as the research method in view of the fact that this research project needs a large scope of data to the reason of the aim and objective of this

study. Also, the method was chosen in order to examine the possibilities of independent variable on dependent variable.

3.3 Population and Sampling

To certify the conceptual model empirically, a study changed into carried out on SMEs within the Sungai Petani area based in pattern size of 300 SMEs. Due to the non-availability of a single dependable database that would be used as a sampling body, the study carried out non-opportunity, purposive sampling. A self-administered survey turned into used and 300 questionnaires were allotted to respective SMEs after making appointments with managers and/ or proprietors. Data had been accrued over a period of 1 week from managers and/or proprietors of the taking part SMEs. To evaluate the conceptual version empirically, a survey become carried out on SMEs in the Sungai Petani location. The sample size of 300 SME. Regarding the non-availability of an unmarried dependable database that might be used as a sampling frame, the have a look at carried out non-opportunity, purposive sampling. To make sure a fast and powerful system, questionnaires had been disbursed in person in random by the help of my father by distributing. As a result, 211 from 233 accrued questionnaires have been usable for information analysis, representing a reaction fee of 70%, that's taken into consideration desirable by means of many standards (D Mahlangu, 2017).

3.4 Data Collecting Method

The measures used on this study had been adapted from numerous preceding researches. Relevant changes have been done to healthy the current research context and motive. The measurement objects have been measured the use of a 6-factor Likert scale with the strongly disagree values: 1- totally disagree to 6 - totally agree. The scale is primarily

based upon the idea that every announcement object on the scale has identical attitudinal cost, importance or weight in terms of reflecting attitudes toward the issued questions (Kumar 2016). Supply chain collaboration items had been adapted from Prajogo and Olhager (2019), joint making plans items have been tailored from Kim (2019) where supply chain capabilities objects have been adapted from Morash and Lynch (2018) and firm overall performance objects were adapted form (Li, Yang, Sun & Sohal, 2017).

3.5 Designs of Questionnaire

Table 3.1 : Design of Research Instrument

Section	Number of Questions (Items)	Variables & Questions
A	3	Background information of business profile.
B	7	Supply Chain Collaboration (SCC) - 1. SCC is an essential component to effective supply chain management. 2. SCC is about different entities working together toward shared objectives. 3. SCC improves agility, reduces bullwhip effects and enable enterprises to arrange their supply chain more effectively. 4. SC teams should be able to share information with stakeholders and collaborate with the right people at the right time to solve. 5. SCC help solve issues in the most efficient manner. 6. SC resilience has become a priority for enterprises. 7. “Knowledge is power” as they say and in the case of supply chain collaboration, sharing information leads

		<p>to enhanced knowledge across the chain that allows you to achieve:</p> <ul style="list-style-type: none"> a) Lower inventory levels and higher inventory turns b) Lower transportation and warehouse costs c) Lower out of stock levels d) Shorter lead times e) Improved customer service metrics f) Visibility into customer demand and supplier performance g) Earlier and quicker decision making
	<p>6</p>	<p>Joint Planning</p> <ol style="list-style-type: none"> 1. Joint planning is the practice of working together towards a common goal or purpose. 2. Effective joint planning can have an overwhelming positive impact on employee engagement. 3. Joint planning will give a huge impact on firm wellbeing and productivity of the firm. 4. The key to successful joint business is understanding each other's. 5. Joint business planning involves gaining a clear understanding of the objectives of other parties and coming together to make a mutually acceptable plan. 6. The most successful plans are those that: <ul style="list-style-type: none"> a) are achievable and executed on time. b) accurately target customers' needs c) don't run into any issues d) establish success metrics and key performance indicators (KPIs)

Section	Number of Questions (Items)	Variables & Questions
5	5	<p data-bbox="634 485 946 520">Supply Chain Abilities</p> <ol data-bbox="621 590 1398 1537" style="list-style-type: none"> <li data-bbox="621 590 1398 768">1. Supply Sense: Organizations need to recognise what's feasible in their supply chains. This capability includes procedures which includes deliver chain making plans, supply danger management and supplier relationship control. <li data-bbox="621 800 1398 947">2. Supply reaction: The operations in a deliver chain that make matters show up — inbound logistics, manufacturing, asset management — fall into this category. <li data-bbox="621 978 1398 1188">3. Decide and dedicate: With their deliver and call for sense abilities, companies can orchestrate their quit-to-leave deliver chains and make profitable guarantees to customers. Processes that enable these actions include manipulate towers, product life cycle control, and advanced sales and operations making plans. <li data-bbox="621 1220 1398 1367">4. Demand experience: This functionality includes getting to know and monitoring what customers need. Demand management, forecasting and call for sensing are blanketed here. <li data-bbox="621 1398 1398 1537">5. Demand reaction: Processes such as logistics, multichannel achievement and e-commerce allow agencies to give clients the products and offerings they want.