ATILIM UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF BUSINESS ADMINISTRATION
BUSINESS ADMINISTRATION MASTER'S PROGRAMME

THE IMPACT OF OPERATIONS MANAGEMENT PRACTICES ON SMEs PERFORMANCE: EVIDEMCES FROM BORAMA TOWN, SOMALIA

Master's Thesis

Abdirazak Jama Yusuf

Ankara-2021

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Supervisor
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ACCEPTANCE AND APPROVAL

This is to certify that this thesis titled “The Impact of Operations Management Practices on SME performance: Evidences from Borama Town, Somalia” and prepared by Abdirazak JAMA YUSUF meets with the committee’s approval unanimously by a majority vote as Master’s Thesis in the field of Business Administration following the successful defense conducted in [29.04.2021].

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- I prepared this thesis per the Atilim University Graduate School of Social Sciences Thesis Writing Directive,
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29/04/2021

Abdirazak Jama Yusuf

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ÖZ

Abdirazak Jama Yusuf. Operasyon Yönetimi Uygulamalarının KOBİ'lerin Performansına Etkisi: Somali'nin Borama Kentinden Kanıtlar

Bu çalışma, operasyon yönetimi uygulamalarının Somali'nin Borama kentindeki küçük ve orta ölçekli işletmelerin (KOBİ) performanslarına etkisini incelemiştir. İşletmelerdeki operasyon yönetimi uygulamalarının bir parçası olarak teknoloji, üretim planlaması, değer zinciri yönetimi ve tasarım kararlarının temel yönlerini ele almıştır. Bu yaklaşım, operasyon yönetiminin verimliliklerini sergileyen bir şekilde operasyon yönetimi kullanımının işletmelere sağladığı rekabet üstünlüğüne ilişkin kanıtlar sunar. Bu çalışma, işletme performansını etkileyen dört ana değişkeni araştırmaktadır. Söz konusu bağımsız değişkenler planlama, teknoloji, değer zinciri ve tasarım kararlarıdır. Bağımlı değişken KOBİ'lerin performansıdır. Kesitsel bir araştırma planlaması kullanılarak katılımcılarla bir anket çalışması yapılmıştır. Katılımcıların seçimi elverişlilik temelinde yapılmıştır. İstatistiksel bulgular, tüm değişkenlerin işletmelerin performansıyla pozitif olarak ilişkili olduğunu göstermektedir. Bu nedenle Borama KOBİ'lerine benzer örnekler için operasyon yönetiminde teknoloji, üretim planlama, değer zinciri yönetimi ve tasarım kararlarından yararlanmalarını öneriyoruz.

Anahtar Kelimeler: Operasyon yönetimi, KOBİ'ler, iş performansı, değer zinciri yönetimi, planlama teknolojisi.

ABSTRACT

Abdirazak Jama Yusuf. The Impact of Operations Management Practices on SMEs Performance: Evidences From Borama Town, Somalia, M.Sc. Thesis, Ankara, 2021.

The study examined the impact of operations management practices on performances of small and medium enterprises' (SMEs) in Borama Town, Somalia. It addressed the key aspects of technology, production planning, value chain management, and designing decisions as part of operations management practices in businesses. The approach provides evidences for the use of operation management businesses' competitive advantages that showcase their efficiency of operations management. The study investigates four main variables that influence business performance. The independent variables are: planning, technology, value chain, and designing decisions. The dependent variable is SMEs' performance. Using a cross-sectional survey design, a questionnaire was administered to participants. The respondents were conveniently selected. The statistical findings show that all the variables are positively correlated to businesses' performance. Therefore, for the samples similar to the Borama SMEs, we suggest them utilize technology, production planning, value chain management, and designing decisions in their operation management.

Keywords: Operation management, SMEs, business performance, value chain management, planning technology.

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LIST OF ABBREVIATIONS AND KEY WORDS

OM	Operations Management
MBO	Management by Objective
SMEs	Small and Medium size Enterprises
CBP	Customer Benefit Package
OSCM	Operations and Supply Chain Management
OMT	Operations Management Theory
BPR	Business process redesign
SPSS	Statistical Package for Social Sciences

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INTRODUCTION

Background of the Study

The small and medium-sized enterprises (SMEs) in Baroma Town, Somalia, follow the trend to develop strong desires for organizational efficiency through the implementation of efficient operations management practices. The emphasis of the operations management sort by the SMEs is retaliated by Kuznetsov, Garina, Romanovskaya, Kuznetsova, and Andryashina (2018) that argues for the adoption of general principles of management practices, which convert production inputs in the form of materials and labor through the transformation process into outputs into finished goods and/or services. The approach aims to earn the highest level of profit for the organization SMEs (Outputs, 1987). Operations management (OM) is the area in management concerned with the management of processes involved in the creation of goods and/or provision of services (Stevenson, 2005). As a result, most manufacturers and service providers are embracing operations management practices.

All businesses have three major areas of concern to manage; finance, marketing, and production (Vidgen, Shaw, & Grant, 2017). Financial management considers create avenues of financial resources at affordable rates and allocating them to the different functions of the organization as guided by the needs and priorities of the organization (Stevenson, 2005). Marketing is entrusted with the responsibility of sale conversion objectives and promotion of outputs of the organization (Robleh, 2017). The production function is solely in charge of creating the goods and/or services offered by the organization (Kucuk, 2017; Stevenson, 2005). Hence, together with the other functions, the production function based on the methods and quality gives businesses competitive advantages that showcase their efficiency of operations management.

Operations management also ensures cost-effectiveness in production and service offerings. Many SMEs across industries have adopted operation management

practices to help achieve cost-effectiveness (Tomassini, 2019). Views by scholars like Malleret (2006) emphasize the relationship between the profitability of service offered by small and medium-sized industrial firms and the use of effective operations management techniques (Debebe, 2021). The study showed improved performance for those that adopted OM practices. This practice shows that it is not the only efficiency that is realized by employing operations management practices but also effectiveness in operations.

Concisely, operations management is a developmental subject that is expansively discussed by scholars as observed in the literature section. This study borrowed a similar focus on how high production and efficiency can be achieved through operational management. The study also reinforced the legibility of transformational production of goods and services through value addition as the new focus for efficient operation management (Heizer & Render, 2006). This argument is supported by the presence of the right processes that, if absent, results in a struggle to keep the business afloat (Randall, 2007). Besides, Randall (2007) further reinforces that operations management delights the customer through the provision of superior value products, and on the other hand, it benefits the organization through improved performance.

Statement of the Problem

There is no one worldwide business solution that if adopted will guarantee higher operations performance for businesses and SMEs alike. In setting up performance improvement plans, organizations have to analyze in entirety the resources and policies required to enhance their performance. At times environmental scans are carried out to identify if there are opportunities open for exploitation, strengths that can turn out to be competitive advantage, weaknesses and threats which affect performance. The operational issues have also been raised and questioned by management theories such as management by objective (MBO), excellence theory, and financial management that are used to examine the realization and efficiency of improved management methods (Ndururi, 2020). The purposed essentiality of the new management methods has given light to SMES in Borama

town of Somaliland. As such, if profits are to be anticipated, then what the organization does to realize the profitability need to be anticipatable too and be consistent with each other (Schaefer, 2007). This relationship is not one of trade off but of a causal effect. It is against this backdrop the study strived to show that adoption of operations management practices impacts on SMEs performance in Borama town of Somaliland. Thus, the study emphasized on answering the imploratory perspective by looking at the four major functions of operational management; planning of production, technology, value chain management, and designing decision making and the role they play in Somaliland SMEs.

Significance of the Study

The study is significant because it put into perspective a clear picture about the impact of operations management on SMEs performance in Borama town of Somaliland. The study doubled as an eye opener to upcoming small businesses on the importance of adopting operations management practices in their production departments and/or service delivery areas to facilitate smooth business operations and create a competitive advantage for the firms (Keno, 2012). Above all, the study intended to embellish the existing discourse on efficient business operations

Objectives of the Study

The main objective of this study was to investigate the impact of planning of production, technology, value chain management, and designing decisions on SMEs' performance in Borama town.

Specific objectives

i. To investigate the impact of planning of production and/or service provision on SMEs performance in Borama town.

ii. To investigate the impact of technology on the SMEs performance in Borama town.

iii. To investigate the impact of value chain management on SMEs performance in Borama town.

iv. To investigate the impact of designing decisions on SMEs performance in Borama town.

Research Questions

i. Does planning of production impact SMEs performance in Borama town?

ii. Does use of technology in production and/or service provision impact SMEs performance in Borama town?

iii. Does management of value chain impacts SMEs performance in Borama town?

iv. Does designing decision impact SMEs performance in Borama town?

Limitations

The researcher envisaged limitations such as the inability to study the whole population or a majority of businesses due to time and resources constraint. Hence, a sample of the larger business population was studied in statistical representation of the whole population. The researchers also envisaged less available time and resources to study a large sample size, which was overcame by ensuring that all relevant data was collected within the time and resources available.

Organization of the Study

The research was structured as guided by the study objectives or hypothesis. The first chapter covered subtopics on research background, research objectives,

research questions, significance of the study, the limitations encountered in the course of the study, and a conceptual framework that gave a visual representation of the independent and organization of the study. Chapter two presented the literature review; theoretical review and empirical review and corresponding study hypotheses. Chapter three dealt with the methodology including data collection and presentation. The fourth chapter discussed study findings and the chapter five presented the conclusion and recommendation. The study chapters are interrelated hence presenting a flow of discussion from theoretical background to findings and recommendations for future studies

CHAPTER ONE

LITERATURE REVIEW

The performances of SMEs are influenced by factors such as production planning, use of technology in operations management, management of value chain, and designing decisions in production and/or service provision (Utterwulghe, 2014; Majid & Musa, 2020; Evans & Collier, 2007; Evans & Collier, 2007). This research assumes replication of the factors among SMEs in Somaliland thereby the significance for their review in the study.

1.1. Business Situations in Somaliland

The nature of business operation in Somaliland has been described differently according to the view held across the market. Previously, the nation has been considered one of the most fragile economies due to the political turmoil in the neighboring Somali, which has mistakenly been associated growing Somaliland market. According to Utterwulghe (2014), Somali's reputation of a mysterious conflict ridden nation has shadowed the business development in Somaliland and other peace-loving regions in the horn of Africa. While Somalia remain enraged in war, Utterwulghe (2014) finds Somaliland to be open to various business opportunities. The author further describes the nature of business operations in Somaliland compared to its neighbors as developmental. The perspective refers to the growing nature of business operations that continue to attract more developers, investors, and entrepreneurs to the market. a larger chunk of the business fronts is dominated by the small and medium sized enterprises that are easily picking based on the low capitation and management skills required. According to the review, it is these positive progress in the market that give Somaliland a futuristic approach to business development considering that majority are taking advantage of the existing peace in its markets.

The study also associated the growing business front in Somaliland with the international recognition of the autonomous region. The acknowledgment has often come at a prize of global participation carried by institutions like UN that are using the region as base for regional operations due to stable atmosphere created. The existing stability is not only a stumbling block for business operations and performances but also an opportunity for greater collaborations that work to the advantages of the SMEs. The world estimated the growing economy's GDP per capita at $347. However, this value is expected to be higher as at current due to the business reforms initiated business by the authorities. The structure and operations of the government has also been a support structure for the market's business development. According to Utterwulghe (2014), the move by the Somaliland government to set an investment capital of $1.19 billion between 2012 and 2016 set the right precedence for business development in the region. The government has also made necessary attempts to realign its business development goals with those provided by global regulators such as the World Bank's Trade and Competitiveness Global Practice (Utterwulghe, 2014). In response, the SMEs have also earned motivation from various locally represented trade institutions and unions. For instance, the Somaliland Business Development Forum (SBDF) and the state sponsored Public Private Dialogue (PPD) have been the support structures for the SMEs in the market. The platforms not only exemplify the participation of the government in supporting the SMEs but also offer a greater platform for engaging other business players beyond the borders of Somaliland. The platforms are viewed as the stepping stone for global participation since they sponsor the connection between the SMEs with regional and global partners.

The business situation in Somaliland can also be defined by an influence of customary trade perspective that influence the operations and performances of the SMEs. According to Majid and Musa (2020), livestock and remittances are the main sources of income for the economy. The main sources of have income have influenced venturing SMEs to incline towards operations that enhance or connect the main business operations in the market. The influence of the businesses posts deterministic influence on the economy, and so is the SMEs that are run in the

market. As such, many SMEs conglomerate the supply of livestock to Yemen, Oman and Saudi Arabia as the main markets. The popularity of the markets in the economy have created dependable business operations that requires the upcoming ventures to meet the missing links if not be a reinvestment of the income earned from the livestock trade. The same situation applies with the remittance that the economy receives from abroad. For a small market, the teams tend to develop along foreign remittance as the sources of foreign currency and balance of trade. As a result, Somaliland has experienced a growing trade trends that are linked to foreign labor supply. The economy is taking advantage of its stability to attract local development with many SMEs being formed to achieve the growing developments. Such include businesses that are formed as supplies of construction materials, finished goods imported from abroad, supply of livestock of overseas and growing money transfer services. The complexity of the businesses also open room for more supportive ventures such as in the service industry where hotels and entertainment are emerging in small sizes. Besides, understanding the nature of business operations in Somaliland is important to building a reflective case for Borama town. As a growing market, there is consistent trend in business adopting and development as suggested by Majid and Musa (2020) that tend to flow across the major towns. Hence, it is expected that the business behavior and performances in Borama will imitate the overall nation's business behavior for the SMEs.

1.2. Planning of Production and/or Service Provision

According to Evans and Collier (2007) production planning is a key element in the input transformation process of any firm. Planning sets goals that give direction on what the organization intends to achieve (Evans & Collier, 2007). Jones and Robinson (2012) retaliate that the goals then form the basis for decision-making in terms of the strategies and activities to be performed to realize the set goals. In the words of Mula, Poler, and Garcia, (2006), good planning guarantees availability of enough raw materials, able workforce, and other resources needed to produce and/or provide services according to the plan. Interestingly, production planning is managed by production scheduling, which makes sure processes are finished in time and

efficiently (Golpîra, Khan, & Zhang, 2018). Indeed, perfect planning prevents poor performance.

Jamalnia, Yang, Feili, Xu, and Jamali (2019) also paints a referenceable image of production planning as an activity of operation management. The study looked at performance rates for different aggregate production strategies as an image for testing uncertainties. Though the complex used by the study is a bit complex, it provides a good reflection of the production planning purpose as a tool for overcoming various operational challenges (Jamalnia et al., 2019). The study construed an applicable theoretical and analytical front that was used in the study to understand how the theoretical perspective of production planning can be intertwined or be explored used numerically developed studied (Jamalnia et al., 2019). Besides, the study is also relevant in developing corresponding objectives that can be grasp and explore the operations of the SMEs in Somaliland (Jamalnia et al., 2019). The use of the several criterial decisions also highlights on the decisional implication on business optimization, considering that profitability is almost the automatic and most prioritized objectives businesses. For a developing economy, the sustainability of business is tested by their ability to make sufficient return to retain them in operations (Jamalnia et al., 2019). As such, the incentive of operation management is to ensure that production planning is done effectively as a tool for enhancing income. The process can either be from the demand or supply side (Jamalnia et al., 2019). The demand relies on the quality factor to ensure that more people in the market demand for the products/services while the supply ensure that production is done within feasible levels that can sustain the company or avoid making huge loses to the business.

The importance of planning in production has been tested in other markets. A study by Koh, Simpson, Padmore, Dimitriadis, and Misopoulos, (2006) looked at the importance of resource planning among Greek SMEs. The inclusion of enterprise resource planning (EREP) among the Greek companies has indicated effectiveness in overcoming various operational uncertainties in their systems. Planning is applied as a strategy to cope up with uncertainties. The benefits of planning are realized even though the companies tend to adopt ERP differently, something that seem promising

for the Somaliland SMEs considering the economic and market differences between Greek and Somaliland markets. The differences also caused fragmentation across different business units, products, and services, which make the method applicable to different business types (Koh et al., 2006). Similarly, the business can also apply the method along different business cultures as shown by the study on the Greek businesses. As a result, ERP type of production plan allows businesses to effectively manage available processes including skills and other supportive structures (Koh et al., 2006). The objective this type of planned production is to ensure that goods and services are harnessed within the productive feasibility of the company without overriding its resources or exhausting the available limited resources through wasteful production. Koh et al. (2006) acknowledges production planning as the threshold or foundation of responsive production that ensure that business effectively uses their resources to make the highest benefit attainable under all circumstances. In the case of the Greek companies, the method is also used in supply chain and warehouse management (Koh et al., 2006). The businesses rely on production planning as a scheme for adopting and exerting successful business operation.

The relevance and importance of production planning can also be viewed as a scientific management approach. Though old in application, the method of production planning addressed by the study suggest a foundational application of the method in the developing markets as in the case of Somaliland. A study by Dauzère–Pérès, and Lasserre (2002) describes the production planning method as a scheduling initiative that ensures that production not only meet the desired output but also the correct time and weight in the market. The study found that low scheduling is a practice for capacity constraint experienced by businesses while the high scheduling is appropriate for the high-capacity productions. Therefore, according to Dauzère–Pérès, and Lasserre (2002), production planning processes like scheduling are used to build the right capacity for businesses. The perspective is backed by Belmokaddem, Mekidiche, and Sahed, (2009) that argued for the use of fuzzy goal programming as one of the key approaches that are used in production planning. Unlike the previous scholars, the study by Belmokaddem et al. (2009) created a postmodern application

of the method using digital programming and algebra to test for its impact on production, work force cost management, inventory management and other production elements that influences the aggregate production among companies. Though the method cited is complex, its relevance in this study is found in the developmental application of production planning that offers businesses numerous opportunities to enhance their production within controllable and accessible parameters. As such businesses can be able to regulate their production to ensure that resources are fully utilized and waste is eliminated (Belmokaddemet al., 2009). Hence, the fuzzy goal is but just one of the technical production planning techniques that have shown effective for organizations thereby giving hope to the Somaliland SMEs to experiment many production methods that they find suitable for the business type, structure, and working environment.

1.3. Role of Technology in Production and/or Service Provision

Technology has greatly changed how organizations produce goods and services. According to Siepmann, Ripari, Waszczynskyj, and Spier (2018), there are different types of technologies that an organization can use in the manufacturing of goods and service provision operations. In a similar argument as Evans and Collier (2007), the adoption and inclusion of technology in a firm's production process greatly changes the way the organization transforms input into outputs. The processes enhance the interactions between the firm and its customers, thereby making it easier to understand their needs and wants better (Tetik, Peltokorpi, Seppänen, & Holmström, 2019). In this time and age, a business that does not embrace technology in its operations cannot compete at the same level with others in that industry.

Despite the challenges that may be experienced in using technology, the benefits speak volumes. According to Evans and Collier (2007) the milestones realized due to use of technology include the use of business intelligence system, data warehousing, data mining, and the availability of the internet, which has introduced many new intermediaries that would otherwise not be accessed. However, in a rebound, Ham Verberne, Ham, and Midden (2012) argues that in employing

technology is the feasible ways of enhancing trustworthiness and acceptability of products in the market. According to Ham, Hitomi, and Yoshida, (2012), the process must be taken by choosing the right technology for the job and employees be well trained to use it correctly. Technology has become a necessity in running small and medium sized enterprises. Agrifoglio, Cannavale, Laurenza, and Metallo, (2017) also addresses the legibility of technology and how it affects operations management. The authors argue that technology facilitates co-creation as guided by globalization and variation in customers' expectations, something that the developing markets like Somaliland are not exempted to.

The use of technology also comes with increased development in information technology and communication that has exemplified the way of doing businesses. As a result, technology is perceived by Agrifoglio et al. (2017) as a driver of change in operations management and as a strategy used by the businesses to enhance their performances in the market. The source further gave relevance to the study by reflecting on the perceived review on the role played by technology as part of the business development (Agrifoglio et al. 2017). The source also shed more light on the study by providing sufficient points to denounce the perceived assumption that the developing markets are unable of meeting the growing match of technology sophistication in the developed markets. In own assumption, the penetration of technology in the market was expected to play a critical role in the market. The consumers found more efficient alternatives to connect to their markets while the businesses found a more open market that allowed them to reach out to their customers while also expanding their market base (Agrifoglio et al., 2017). As a result, technology is presented in the upcoming markets as opportunity to overcome traditional challenges that compromise business growth. At the same time, it offers a wider opportunity to harness mare benefits to the businesses and the market by integrating the market through the globalization initiative (Agrifoglio et al., 2017). The introduction of new technological innovations such as cloud computing, production and marketing techniques, many businesses can expect to increase their performances. The growth is consisted and supported by the ideology of using

technology to enhance their performance through better opportunities and developments in the market. Hence, according to Agrifoglio et al. (2017), technology is an embodiment of change that drives the emerging digital platforms that the businesses yarn for or already implement to increase efficiency of their operations and competitiveness in the market.

Metallo, Agrifoglio, Schiavone, and Mueller (2018) also looks at the implication of technological development in business operations. Using the case of internet development, the authors discuss the feasibility in technological development that offers businesses unprecedented opportunity to enhance their operations, growth, and performances across markets. The study uses the case of business that operate under the Internet of Things to show how they expand their business opportunities through innovations (Metallo et al., 2018). Technology offers business the building block in production operations and market development, which distinguishes the modern business operations from the traditional methods. The technological factors reinforce the innovative capability in businesses by creating a possessive competence in the businesses. Besides, Metallo et al. (2018) view technology as a tool for creating value in products and services through improved development, efficiency, lowered cost of production and enhanced customer satisfaction. The perspective is retaliated by Schiavone and Sprenger (2017) who argues for digital technology as a drive for operational management. The technological development is driven by the vision for digital intelligence and continuously automated interaction between businesses and the market in pursuit of the opportunities available in the market. According to Schiavone and Sprenger (2017), there are more ambiguous opportunities that are fully not harness due to the incapability of businesses. However, these opportunities continue to be realized due to the technological feasibility that is offered by the modern digital development. The digital developments offered ranges from transformative to new innovations thereby shaping the entire operations management. Besides, a review of the neighboring and regional markets shows the increasing dependence of businesses' performance on technology. In a study of the digital or technological incorporation in the neighboring market, Chege, Wang, and Suntu, (2020) argue that information technology

influences the performance of firms. The study postulates that innovation across industries have given African firms greater developmental and performance opportunities through increased efficiency and profitability. The position is supported by Nikoloski (2014) who finds a positive impact of information technology in the business sector. The study describes information technology as an asset consideration the increasing reliance of businesses on information technology. One of the key areas highlighted by the study is the reduction of the overall cost of doing business due to the overwhelming leverage offered by new information sharing platforms. Another part that is greatly influenced by technological development is the hotel and tourism sector. According to Ham, Kim, and Jeong (2005) technology is a critical influencer of the performance of the upscale hotels. Information technology has offered greater opportunity for businesses in the sector to catch up with the major players in the markets. Therefore, in similar manner, it is credible that technology gives the SMEs better opportunity to improve their performances thereby being as competitive as the larger organizations in the Somaliland market.

1.4. The Management of Value Chain

When buying a product or using a service, customers look for a customer benefit package (CBP). According to Grönroos (2017) value is a combination of different customer requirements, such as high-quality product or services, rapid response time, excellent service and affordable prices. Jones and Robinson (2012) hold similar point of view by referring to value as a consumer's perception for a good, a service, or a combination of both in comparison to what the customer is willing to part with as a consideration for the good or service (Jones & Robinson, 2012). As such, organizations have not only created value chains but also found mechanisms to maintain them to ensure consistency (Bloss et al., 2020). When the complete CBP is delivered, the customer becomes delighted and if well done, it results in a competitive advantage for the firm.

To achieve this goal, the organization has to create vertical integrations with its suppliers and customers. Evans and Collier (2007) looks at the operational

possibility of value chain as a management of the flow of goods, services, information, and financial transactions from suppliers, through the transformation process, and ultimately to the final user. According to Jones and Robinson (2012) organizations need to decide whether to acquire a supplier, customer, or outsource these services. The challenge today is globalization, which has generated many new opportunities and threats for firms to think about in terms of their value and supply chains (Evans & Collier, 2007). In the event that any stage of the value chain is compromised, the firms' performance is also compromised.

Some scholars also argue for a contemporary supply chain shift that affects operations management. While the focus of operation management is to implement a suitable supply chain management, it has also become a necessity to oversee that the adopted supply chain system eases the efforts of supply chain management. According to Cole, Stevenson, and Aitken (2019) the emergence of new supply chain methods has offered business greater opportunity to harness their income as an operational efficiency. The study market, Somaliland relies great on imports that show how much the businesses require a functional supply chain system to enhance their operations. As such, this approach given by Cole et al. (2019) suggest a feasible market review even though it may not be currently mature enough to sustain the high technological feasibility in the market. However, according to Cole et al. (2019), the prospects of supply chain development through technological acquisition witnessed across the world is likely to have its positive impact in the Somaliland market. The focus introduces that base view on supply chain as guided by the modern philosophies such as the operations and supply chain management (OSCM) that triggers the innovation in key potential areas that ensure that transit of goods and services is sufficient and satisfactory (Cole et al., 2019). For the developing markets, efficiency of the operations is guided by the ledger need and technologies around the foregoing opportunities in the market (Cole et al., 2019). The focus on reliability is guided by design, replenishment, and advanced inventory as time and determinant addition to the edge of intermediaries (Farooq et al., 2021). For instance, though the market is not ready for a block-chain driven supply chain, such kind of innovations put widely discussed by Cole et al. (2019) play a critical role in current prospect for

supply chain management. Hence, the Cole et al. (2019) discussion gives a developed but an opportunistic perspective of supply chain as a factor of operation management that this study considered as an epitome for change in the industry, which the businesses in Somaliland may find a change factor to manage their supplies since most of products sold are sourced out of the market.

1.5. Designing Decisions

These are decisions about how goods and services and the processes for producing them are to be designed. According to Penin (2018) the main objective behind designing of goods and services is to optimally meet the needs and wants of customers. This process starts from the time an idea is conceived, and the concept developed and subjected to a feasibility study that evaluates whether the product or service will meet customer needs. Orth (2019) postulates that the process proceeds by considering the best combination that will give the company a competitive advantage and whether the organization has the required capacity to produce the product or offer the service. Once the idea goes through the feasibility stage, it is subjected to full production (Jones & Robinson, 2012). In the same way that goods and services are designed, processes for producing them have to be designed and decisions made on what process was used to produce the goods and services (Evans & Collier, 2007) The Goal here is to form the correct mixture of equipment, methods, environment, and many other aspects, to supply goods and services that meet customer requirements.

The designing of decisions also plays critical role for the businesses in responding to the ever-increasing operational challenges. According to Kuhnle, Kaiser, Theiß, Stricker, and Lanza (2021) the production processes associated with changes in customer requirements demanding the businesses be more acute in responding to various issues around them. As a result, Kuhnle et al. (2021) notes that operational efficiency and management is not only a competitive advantage in the industry but has become a necessity which the industry or the SMEs cannot overlook. The focus is to ensure that production of the any part of the operation is

conducted effectively through designed decisions that manage the entire operation system with a key objective of optimizing performance (Kuhnle et al., 2021). The designing process also highlights a control system that is slowly being adopted in business management among the SMEs considering the static and models that signify importance of the knowledge development and application among the small enterprises (Kuhnle et al., 2021). For instance, the dynamism of the environmental inclusion in business management is reinforcing the need by managers to appreciate and acknowledge the growing need to be more sustainable. The perspective put forth by the author resonate with growing concern on business' impact on the environment requiring some policies review and actions by the managers to protect the environment (Kuhnle et al., 2021). For instance, the plastic waste landfill is an upcoming issue in the Somaliland requiring that businesses acquire more designing decisions that ensure that businesses act in favor of recommendations to improve their environment (Kuhnle et al., 2021). As a result, businesses that adopt these actions in their operations are likely to have a greater competitive advantage considering that they have laid the right ground for environment-conscious approach to operation management. Besides, Kuhnle et al (2021) also note the inclusion of data in designing decisions. The use of data is a new decision-making method that ensures that decisions made are well-informed based on valid or provable statistics in the market (Kuhnle et al., 2021). To understanding the consumption behavior, it is important to acquire the right data consumer patterns and behaviors to inform the decision makers on the right approach to adopt. The application is also associated with reinforcement learning that prepares the businesses to rely on progressive knowledge to make the right decisions (Kuhnle et al., 2021). The approach is hence viewed as compelling for the business to be act and be assessed in terms of their legibility to control systems that enhance their performances (Kuhnle et al., 2021). Therefore, designing decisions guide production and operation based on the information available for decisions making and the fore feasible outcome of the decision adopted.

1.6. Somalia Business Environment

The Somalia business sector is defined by the private sector. According to the World Bank (2015), the business environment is just recovering from the destructions created by the Siad Barre's regime. The region has managed to change its focus from the political wars to entrepreneurial and business culture. The businesses are forerun by private players from different sectors such as pastoral agriculture, telecommunication, finance, social services, hospitality, traditional trade and many others. Each of the sectors have unrelenting effect on the economy. The sector defines the structure and size of the Somaliland private sector economy, which is dominated by the SMEs. The year 2012 World Bank financial estimation show that the economy is about US$1.390 billion. The value excluded the official development assistance which is an injection that is not contributed to by the local businesses. However, the estimated GDP is shared among the main businesses sectors. According to the World Bank (2015), livestock contributes the highest part of the nation's GDP at a share of 29.5%. The sector is followed by whole trade at 19.5%, crops agriculture at 8.2%, the rapidly growing real estate sector at 6.4%, forestry at 5.2%, the construction sector at 3.7%, and the telecommunication sector at 2.2%. The distribution of the sectors portrays the representational investment by most SMEs in the market. The distribution of the investments is also shared across the large, medium and small enterprises. The larger companies are mostly represented by corporations that struggle for a regional presence but not as common as the upcoming indigenous companies. As such, there are more SMEs in the market than the big companies.

The business environment in Somaliland has also grossly developed over time. With a long history of political aggression from the past regimes, the region has developed its own path for business prosperity thereby being viewed at a typical commercial experiment for the horn of Africa. World Bank (2015) report describes a systemic adoption of business opportunities. The report describes the systemic application of business development that connote the phases taken by most SMEs in the environment. Most SMEs in the market start as businesses aimed at using

minimum capital due to the sufficient capital faced by the ventures. As a result, the businesses begin small by structural design and unavoidable condition I the market. The small businesses spend most of their early day's strategies on how to retain more income to increase their operational volumes (World Bank, 2015). The firms are also constrained as SMEs by utilities such as electricity, permit, protection for investments and sufficient skills (World Bank, 2015). The conditions limit their growth ability thereby creating a referential SME identity that can only serve the local customers. Therefore, SMEs in Somaliland occur as a result of structural causes and necessities that limit their robust formation and quick development.

CHAPTER TWO

CONCEPTUAL FRAMEWORK

The most cited theory in operation management is the Operations Management Theory (OMT). The OMT was developed by Fredrerick Taylor during the second industrial revolution. The theory is among the early scientific postulations of management that provided guidance on better great factors (Alvesson, Hardy, & Harley, 2008). Greenwood (2016) argues that this theory remains relevant today as it was during the industrial revolution. The relevance of theory to this study is due to the developmental understanding of management as a scientific practice. As such, it gives a good spectrum for understanding the decisional behavior of managers and businesses to improve their productive and sustainable performances.

According to Ji et al. (2020), the operations management theory is about the strategies employed by organizations in organizing and directing business activities to create the optimal level of efficiency. This is the ability to transform inputs such as materials and labor into goods and services in the most efficient way possible to maximize profits (Ji et al., 2020). Operations management practice is guided by the principles of planning, organizing, directing and controlling as described by Slack, Chambers, and Johnston (2007). It compels the relevant functions involved in production and provision of goods and services to restructure its process in line with the goods and services to be produced (Jones & Robinson, 2012). It is a theory about monitoring effectiveness in processes and evaluating efficiency in outputs. The theory provides a definitive position that can best explain the relationship between the SMEs' performance and production planning, technology, designing decisions and management of value chain. All the dependent variables measure the focus of modern business operations or the key areas where the management see greater potentialities. For instance, the operational management theory suggests strategic planning of production to ensure that the businesses sustainable manage the available resources at a maximum profit. The theory also supports the use of technology as a facilitator of better development and growth in the market.

Operations management theory plays diverse roles in shaping strategy for the SMEs, depending on an organization's strategic role stage. The relevance of the theories in strategic development and business implementation emphasizes the theory's relevance to the study. Wheelwright and Robert (2018) specify four stages that should be followed, including minimization of negative potential whereby top leadership tries to defuse any negative impact from internal operations. The second is the achievement of parity, such as staying even with competition by adopting industry practices related to work-force matters such as labor negotiations), equipment purchases, and upgrades of capacity. Third is aligning operations management to fully support the overall strategy of the firm, and finally pursuing operations management-based strategy that rely to a large extent on operations capabilities (Wheelwright & Robert, 2018). Therefore, including OM in the strategy development, formulation, and implementation will help the firm realize improved performance.

Another critical theory that is relevant to this study is the Theory of Performance Frontiers. This is one of the key theories in operations management. The theory of performance frontiers was formulated by Schmenner and Swink (Vastag, 2000). The theory emphasizes addressing several magnitudes of factory performance and seeks to amalgamate erstwhile statements about cumulative skills and trade-offs in production (Schmenner et al., 1998). The production frontier can be explained as the all-out performance that can be attained by a manufacturing division of a company given a set of working choices (Vastag, 2000). According to Schmenner et al. (1998), the performance frontier theory advocates use a combination of factors to increase efficiency, namely technology, policies, particular design, investment, and plant operations. The theory guides the operational efficiency of business by putting together technical capabilities and productive motilities supported by technology, effective planning and strategic development.

The theory of Business process redesign (BPR) also identifies with the pressing need for business overhaul and review of existing strategies that is hypothesized for the Somaliland SMEs. BPR theory is the whole refurbishment of an organization key business processes. According to Cho et al. (2017), the current

times, the management of business processes is changing towards evidence-based by not only measuring performance but also looking at other indicators in the organization that may affect other sectors that compliment operations management (Cho et al., 2017). BPR improves efficiency by cutting down all forms of slack and excess, reducing expenses, and improving process management and production workflows (Bhaskar, 2017). Redesigning will result in good facility layouts and work design that influence the way to meet consumers' wants and needs (Evans & Collier, 2007). BPR is the ultimate tool for streamlining business processes and widening the spectrum for managing operations.

Lastly, understanding organization theory also shaped the perspective of the study. Most businesses, SMEs include tend to follow certain organization behavior that are defined by the organization theory as the foundation of their actions. The importance of the theory in the study was echoed by Gordić (2017) that argue that operations management in both manufacturing and service provision units mainly focus on organization skills. This approach helps the organization to equitably deploy the scarce resources to the different tasks that need to be undertaken and effectively assign tasks to employees (Gordić, 2017). If well-organized, it reduces the lead time that is the amount of time needed from the placement of an order through processing it to finally deliver to the customer (Malik & Sarkar, 2019). Organization is the process that harmonizes resources, people, and technology to execute planned activities (Evans & Collier, 2007). Essentially, organizations divide work into activities to be performed and encourage collaboration through teams to achieve work objectives. The theory across different sectors of the economy under which the SMEs operate, one of the areas affected by the theory is organizational culture and structure. Organization culture and an operational custom influence the beliefs of an organization on how best it can conduct its operations. Many SMEs in markets have acquired certain productive and behavioral culture that tend to influence their conduct and operations. Positive organization culture is the main motivation for the organizations that choose to defend ethical organization practice and profitability. The SMEs have realized that acting in certain manner is likely to

influence their operations towards achieving their overall objectives. For instance, the SMEs in Somaliland have realized the importance of ethically accepted practices hence tend to comply with prevailing market and customers' behavioral expectations. As a result, organization theory helps the organizations realize the framework under which the market expected them to conduct their operations in terms of production functions, brand design strategies, and focus on value creation and sustainability. Hence, very element of the operations is skewed towards achieving these objectives. Therefore, the organization theory is the epitome of behavioral influence that shifts and impacts production, design strategies, creation of value chain and other growth factors desired by the SMEs in the market.

2.1. Conceptual Model

Figure 1 is a conceptual model depicting the independent and the dependent variable.

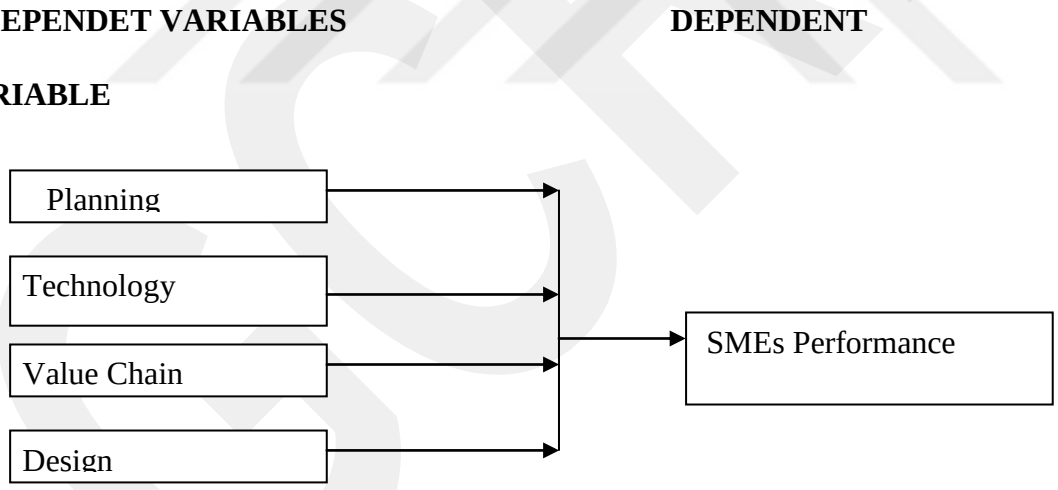

Figure 1. Conceptual Framework (Researcher, 2021)

Planning: It is the basis for future activities of a company. It involves the process of setting goals, making decisions on how the goals were achieved, setting strategies for action, and mobilization and allocation of resources to facilitate efficient production and/or service provision (Skokan, Pawliczek, & Piszczur, 2013).

H1: Planning of production and/or service provision has an impact on SMEs performance

Technology: Entails the different kinds of technologies used by manufacturing and service providing organizations (Soliman & Youssef, 2003). Technology has not only drastically changed how goods and services are produced but also enabled meeting the needs and wants of consumers (Dodgson, Gann, & Salter, 2006).

H2: The use of technology in production and/or service provision has an impact on SMEs performance.

Value Chain: The movement of goods in production from supplier through transformation to the final consumer as customer benefits are being added to get the desired customer benefit package (Olhager, 2012; Chan, 2007; Rainbird, 2004).

H3: Management of value chain has an impact on SMEs performance.

Design: Decisions on what constituted the customer benefit package and the feasible process of manufacturing the goods and/or providing the services (Cohn & Hull, 2009; Dincer, Hacioglu, & Yüksel, 2018; Sigala & Marinidis, 2012).

H4: Designing decisions has an impact on SMEs performance

CHAPTER THREE

METHODOLOGY

This chapter describes the methodology and procedures that was used to conduct the study. It gives information on research design, explains on the targeted population, and the sampling procedure that was used to come up with the sample. The chapter also highlights the data collection instruments and procedures and stipulates how the data was analyzed.

3.1. Study Content

The study was undertaken in Borama town, which is the headquarters and the biggest city of the northwestern part of Awdal province in Somaliland near the border with Ethiopia. It is the commercial hub of the province, with a big number of SMEs of different orientations. This provides a good study area, as it satisfies the environmental scope of the study.

3.2. Research Design

The research was carried out through a cross-sectional survey design. The research data was collected and analyzed in order to describe the implied phenomenon (Reid, 1998). The data was collected among the SMEs in Borama town of Somaliland to form the primary data (Mugenda & Mugenda, 2003). The study was conducted within the months of May and June 2021

3.3. Sampling Strategy

The target population for this study consisted of 100 SMEs found in Borama town (Omar & Yonis, 2005). SMEs are the main basis for economic growth in Borama town of Somaliland (Mohamed, 2019). In that case, they created a good target to determine what impact operations management has made in their operations

as key drivers of the economy of Somaliland. The whole population was given an equal chance to participate in the study.

From this target population of 100 SMEs, the accessible population was 50%; that is, 50 SMEs due to the constraint of time and resources (Nongkynrih, 2012). The researcher had ample time to interact with this manageable and accessible population. The sample divided the total population into groups called strata based on business categories. The researcher then divided the strata into manageable groups (employee levels) known as stratum using job designations, which constituted the sample size using stratified sampling method. The strata were more homogeneous than the total population, which helped get more and precise estimate of the stratum.

3.4. Data Collection Techniques

The researcher used questionnaires for primary data collection.

3.5. Data Collection Instruments

The research used questionnaire that were developed to help the respondents to express themselves. The researcher developed the questionnaire from the understanding of the purpose of the study and condition that surrounded it and the idea from Fening (2012) and Dalizu (2018). The use of the questionnaire as the study and data collection instruments fits the current inaccessibility moment. With majority experiencing lockdown and inability to move around, it was impossible to meet all the respondents' face to face (Kiess & Bloomquist, 1985). As such, the primary decision was influenced by need to have a data collection instrument that can serve amidst the Covid-19 restrictions, which the questionnaire met the merits of the search.

The questionnaire was formulated as an individual assessment tool requiring the respondents to self-manage and respond to questions. However, before all, the questionnaire sought for the permission of the respondents through a letter of

introduction that required the directors or owners of the SMEs to complete the questions in the absence of the researcher (Oso, 2013). The tool also emphasized on the confidentiality of the respondents by sharing no one of the information provided to other third parties other than for research purposes.

The questionnaire, adopted from Fening (2012) and Dalizu (2018), was divided into background information, respondents' opinion on management practices, and direct response to the study objectives; planning for production, role of technology in production, management of the value chain, designing decisions, and assumed SMEs' performances. The data collection was conducted on the five objectives of the study measured on a scale of 1 to 5 as presented.

3.6. Research Quality Control

The instruments used was initially first be tested by debugging for reliability and validity. The Cronbach's alpha coefficient used in the study confirm research reliability having been calculated on a scale less than twenty categorized groups. The variability of the items overtakes the challenges associated with single construct that can give false impression of data findings, which could be against the statistical inconsistency of the data. The researcher performed Cronbach on SPSS between the dependent valuable vs. each of the independent variables and found that Technology was the most reliable at .743, followed by Value Chain at .705, Design at .657, and lastly Planning at .653. The average reliability score was approximately .7, which according to George and Mallery (2003) is acceptable.

3.6.1. Piloting

For the purpose of this study, the instruments were piloted in a neighboring town called Amud, sharing same business characteristics. The town like Borama has substantial number of SMEs. Piloting is important because it helped to test the completeness and the relevance of the instruments to the study. Where any deviancies or faults were found, they were amended beforehand.

3.6.2. Validity of instrument

Validity of instruments has a direct bearing on the validity of research findings. Validity tests entailed assessing construct validity by measuring the degree to which data obtained from the instrument meaningfully and accurately reflects or represents a theoretical concept. The researcher debugged the instrument for validity

3.7. Data Analysis

It is normal to analyze all data collected in a research to infer meaning and convert the data into information. To permit quantitative analysis, data was converted into numerical codes in terms of variables attributes. The data was analyzed and edited using software such as Statistical Package for Social Sciences (SPSS).

3.8. Ethical Considerations

To protect the respondents' identities and responses, data was reported as a block instead of personal cases. All information was treated with uttermost privacy and in confidence. Finally, nothing was given to a third party without permission.

CHAPTER FOUR

RESULTS

4.1. Data Presentation

Each of the objective show distinct view of the directors that is summarized and averaged to give the overall or collective score. As indicated in the data summarized in Table 1, the respondents' views remain indirect but provide a brighter look at the SMEs in the study market.

4.2. Descriptive Statistics

The data found explains the relationship between businesses' overall performance and production planning, value chain management, designing decisions and technology. The variables' data were measured on a scale/range of 1 to 5. Scores from 1 to 3.00 were considered low, 3.10 to 4.4 medium, and above 4.5 was high. The scale allowed to sufficient description of the SMEs' performances on each variable as observed by the respondents. The degree of variables' application was defined as low, medium, and high, which connote the experiences of the respondents and how best they could describe their SMEs performances in a simple understanding manner.

Table 1. Results for Mean Value of Research Variables (L = Low, M = Medium, and H = High)

	VARIABLE	MEAN	DESCRIPTION
1.	Planning of Production and/or Service Provision (X)	**3.9**	M
	SMART goals	4.1	M
	Strategies for goal realization	4.0	M
	Feedback mechanism	3.8	M
	Corrective action	3.7	M
2.	The Role of Technology in Production and/or Service Provision (X)	**4.41**	H
	Adoption of technology	4.6	H
	Technology help understand needs of customers	3.86	M
	The benefits of technology outweigh the disadvantages	4.76	H
3.	Management of Value Chain (X)	**3.55**	M
	Increase of product benefits without increasing price	3.80	M
	Increase of product perceived benefits whilst reducing price	3.22	L
	Decrease product price without decreasing perceived benefits	3.64	M
4.	Designing Decisions (X)	**3.79**	M
	Design of processes	3.82	M
	Design of products	3.76	M
5.	SMEs Performance (Y)	**3.77**	M
	General performance	3.56	M
	Efficiency and effectiveness of meeting objectives	3.84	M
	Efficiency of business functions and processes	3.80	M
	Accountability	3.84	M
	Ease of using resources	4.0	M
	Meeting the needs stakeholders	3.60	M

The data in Table 1 shows summary of the study variables' average for each key questionnaire item. The realization of the objectives is different across the respondents. . The study assessed the respondents' feedback in response to the study objectives on a scale of 1 to 5. The first objective was to examine the role of technology in the production and provision of goods and services. The survey results show a significant rating for the response on how the businesses are interacting with technology. The objective's response looked at three study questions. First is how the business has embraced technology in production. The second perspective questioned the facilitation role of technology and how it has influenced the understanding and needs of their customers better. Lastly, the objective on technology questioned the directors on the challenges of using technology in the production of goods and provision of goods and services. The last component also looked at the chances of benefits outweighing the disadvantages of the process. The overall average for the objective was 4.41 out of 5. The average score was rated considerably high on the measuring scale.

The second objective questioned the participants about their management of the value chain. The objective was tested among the 50 participants and rated on a

scale of 1 to 5. The participants indicated an average objective rating of 3.55, considerably lower than the previous objective. The lead questions for the objective tested how the businesses have managed to enhance the benefits of their products and services without increasing the prices of the goods and services. The participants were also asked about the firm's ability to reduce the product/service process without limiting the benefits associated.

The objective on the designing of decisions is among the straightforward objectives looked at. The objective also indicates competitive characteristics with an average score of 3.79 out of the 5. As observed, the designing objective investigated how planning has influenced the implementation of projects. Like the other objectives, the objective was looked at with responses listed on the descriptive rate requiring the participants to rate their performance on a 1 to 5 scale, which stood for strongly agree to strongly disagree. The objective was supported by two questions; are processes that produce the goods and services supplied well designed by the businesses? And, are goods and the services offered well-designed. The computed average for the objective is as outlined by the two study guidelines.

The last objective presents the perspectival position of the participants on the SMEs' performance. The responses were rated out of five and classified into highly satisfied, satisfied, neutral, dissatisfied, and highly dissatisfied. The objective had a highly supportive study question based on the polarity of the survey. The participants were asked if they were satisfied with their organization's performances. The question was followed by another critical quest whether the participant's organization efficiently and effectively achieves the outlined objectives. The participants were also tested on the satisfaction level of the business' efficiency in business functions and processes, the accountability level of the staff employed at the organization, the ease and effort by which the organization gets its resources, and the level of satisfaction on how the organizations have achieved the needs of the stakeholders. The objective achieved a consider rate considering its wider diversity and implication in the cost of business operations as a mirror for gauging the commitment and participation of the directors.

4.3. Findings Regarding Socio-Demographic Features

The data collected were analyzed using path analysis as the design model. The analysis process took the first step of correlation analysis to show the relationship between the various study objectives and the operational management of the SME. Hence, the survey analysis showed a significant correlation between performance and all independent variables (Figure 1).

4.3.1. Distribution by work designation

Table 2. Designation of Respondent

Designation	Respondents	Percentage
Director	12	24%
Chief Supervisor	15	30%
Department Head	6	12%
Chief Executive Officer	5	10%
Chief Operations Officer	6	10%
Chief Marketing Officer	6	10%

As shown in Table 2 (Fig. 1), most of the respondents were Chief Supervisor (30%), followed by directors (24%), department heads (12%), CEOs (10%), and finally chief marketing officers (10%). The researcher focused on directors and supervisor's because they possessed crucial information about the management of the companies, and they were easily researchable compared to the CEOs.

4.3.2. Distribution by type of SME owned

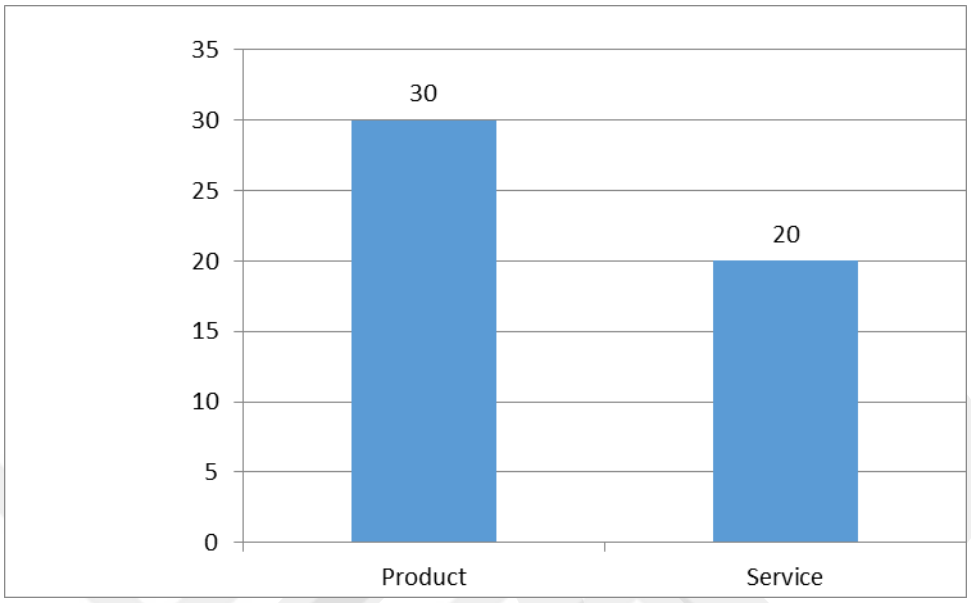

Figure 2. Type of SME

As shown in Figure 3, the majority of the firms (30) whose representatives were interviewed were product orientated as compared to 20 that were service oriented. Ideally, most of the SMEs in the region are product oriented.

4.3.3. Distribution by year of incorporation

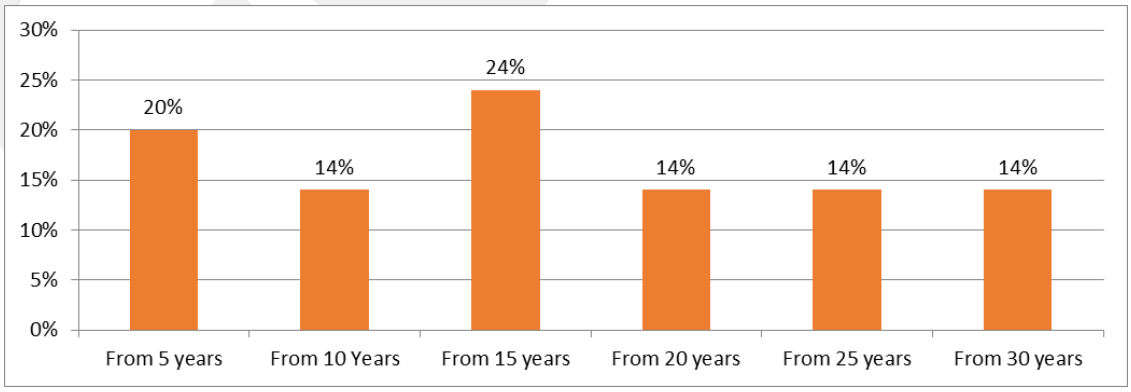

Figure 3. Year of Incorporation

Figure 4 shows the age of the firms since they were incorporated. The researcher aimed at sampling companies incorporated at different years for purpose of comparison. Nevertheless, most of the companies were 5 and 15 years.

4.3.4. Distribution by level of education

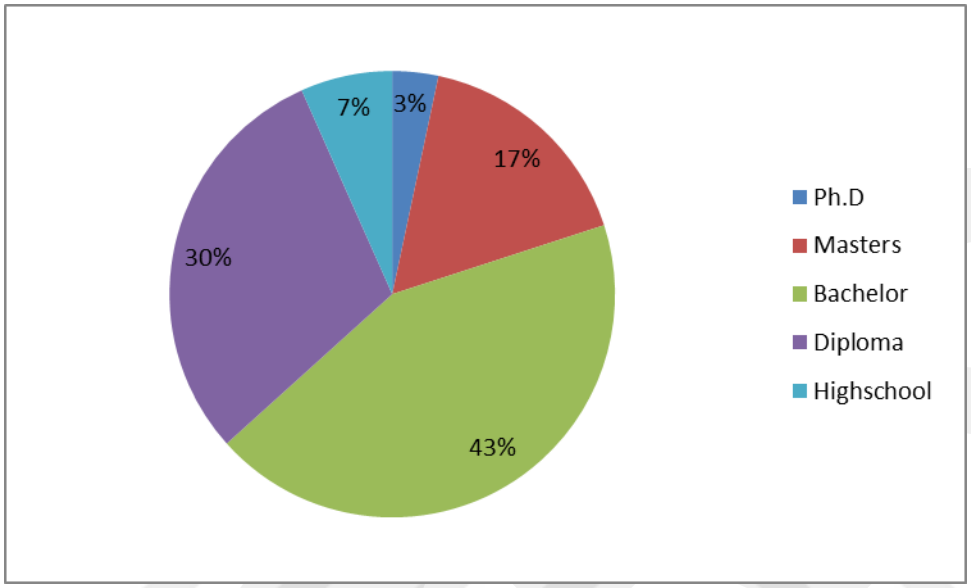

Figure 4. Level of Education

Figure 5 shows the level of education for different respondents. Evidently, most of the interviews have high level of education, with those with at least bachelor degree taking more than 60% of the population. Because of the seniority of the positions held by the respondents, very few lack at least a diploma.

4.3.5. Distribution by location of business

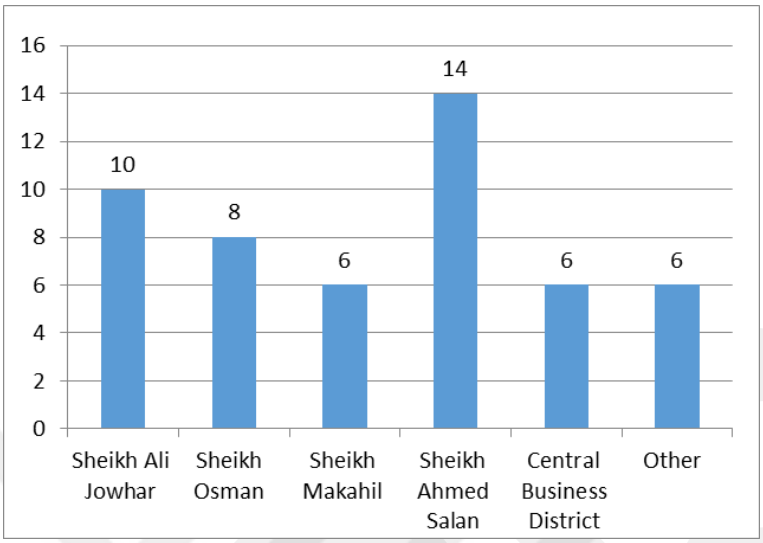

Figure 5. Location of the Business

Figure 6 shows that the majority of the businesses are located on Sheikh Ahmed Salan (14). Other regions follow closely with almost an even distribution. Hence, the key locations of Sheikh Ali Jowhar, Sheikh Osman, Sheikh Makahil, Sheikk Ahmed Salan, and Central Business District made up the largest share of the respondents due to high business traffic in the locations with other remaining areas sharing the remaining slots.

4.3.6. Findings regarding research hypotheses/questions

This research is based on four hypotheses. The following tables illustrate the findings of the study regarding the relationship among research variables; Performance of SMEs (Y), planning of production (X), management of value chain (X), role of technology in production (X), and designing decisions (X), which equally collaborates all the socio-demographic characteristics of the participants.

Hypothesis testing

Table 3. Presentation of Overall Correlation between the X variables of operation management and SMEs Performance

		SMEs Performance (Y)	Planning of Production and/or Service Provision (X)	Management of Value Chain (X)	The Role of Technology in Production and/or Service Provision (X)	Designing Decisions (X)
SMEs Performance (Y)	**Pearson Correlation**	1	.485**	.544**	.591**	.489**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	50	50	50	50	50
Planning of Production and/or Service Provision (X)	**Pearson Correlation**	.485**	1	.293*	.332*	.525**
	Sig. (2-tailed)	.000		.039	.018	.000
	N	50	50	50	50	50
Management of Value Chain (X)	**Pearson Correlation**	.544**	.293*	1	.197	.221
	Sig. (2-tailed)	.000	.039		.0170	.0123
	N	50	50	50	50	50
The Role of Technology in Production and Service Provision (X)	**Pearson Correlation**	.591**	.332*	.197	1	.276
	Sig. (2-tailed)	.000	.018	.0170		.042
	N	50	50	50	50	50
Designing Decisions (X)	**Pearson Correlation**	.489**	.525**	.221	.276	.287
	Sig. (2-tailed)	.000	.000	.0123	.052	
	N	50	50	50	50	50

Table 3 shows two-tailed Pearson Correlation score for all the variables. However, this study breaks down the table into distinct study hypothesis/questions for the variables. The variables show the interactives behavior with the SMEs performances. As such, the study only prioritizes hypotheses between the Y variable and each X variable.

Table 4 describes the relationship between production planning and SMEs' performances. Under the study, the following hypothesis was tested.

H1: Planning of production and/or service provision has an impact on SMEs performance.

Table 4. The Relationship between Planning of Production and SMEs Performance

		SMEs Performance (Y)	Planning of Production and/or Service Provision (X)	Management of Value Chain (X)	The Role of Technology in Production and/or Service Provision (X)	Designing Decisions (X)
Planning of Production and/or Service Provision (X)	**Pearson Correlation**	.485**	**1**	.293*	.332*	.525**
	Sig. (2-tailed)	.000		.039	.018	.000
	N	**50**	**50**	**50**	**50**	**50**

The relationship between planning of production or service provision and SMEs performances was analyzed using correlation analysis. The analysis determined that there is significant relationship between planning of production and SMEs' performances. The study findings indicate positive correlation between the two variables at $r = .525$ and $p < .05$. The positive correlation between planning of production and SMEs performances confirm that any directional change in the X variable, in this case planning of production, will trigger similar directional change in Y variable, which is the performance of SMEs.

Table 5 describes the relationship between application of technology in production and SMEs' performances. Under the study, the following hypothesis is tested was tested.

H2: The use of technology in production and/or service provision has an impact on SMEs performance.

Table 5. The Relationship between Role of Technology in Production and SMEs Performance

		SMEs Performance (Y)	Planning of Production and/or Service Provision (X)	Management of Value Chain (X)	The Role of Technology in Production and/or Service Provision (X)	Designing Decisions (X)
The Role of Technology in Production and Service Provision (X)	**Pearson Correlation**	.591**	.332*	.197	1	.276
	Sig. (2-tailed)	.000	.018	.0170		.042
	N	**50**	**50**	**50**	**50**	**50**

The relationship between the use of technology in production and service provision and SMEs performances was analyzed using correlation analysis. The analysis shows significant relationship between the two variables. The study findings indicate positive correlation between use of technology and SMEs' performances at $r = .276$ and $p < .05$. The positive correlation between application of technology in production and SMEs performances confirm that the SMEs will continue to experience progressive change in performance as long as they continue to use more technology.

Table 6 describes the relationship between management of value chain and SMEs' performances. Under the study, the following hypothesis is tested was tested.

H3: Management of value chain has an impact on SMEs performance.

Table 6. The Relationship between Management of Value Chain and SMEs Performance

		SMEs Performance (Y)	Planning of Production and/or Service Provision (X)	Management of Value Chain (X)	The Role of Technology in Production and/or Service Provision (X)	Designing Decisions (X)
Management of Value Chain (X)	**Pearson Correlation**	.544**	.293*	1	1.97	.221
	Sig. (2-tailed)	.000	.039		.0170	.0123
	N	**50**	**50**	**50**	**50**	**50**

The relationship between management of value chain and SMEs performances was also analyzed using correlation analysis. The analysis shows significant relationship between value chain management and SMEs' performances. The study findings indicate positive correlation between value chain management and SMEs performances at r = .221 and p< .05. The positive correlation between the variables confirms that a change in application of value chain management will trigger positive change performance of SMEs. Hence, when the SMEs employ value chain management, they will realize greater change in operational performances.

Table 7 describes the relationship between designing decisions and SMEs' performances. Under the study, the following hypothesis is tested was tested.

H4: Designing decisions has an impact on SMEs performance.

Table7. The Relationship between Designing Decisions and SMEs Performance

		SMEs Performance (Y)	Planning of Production and/or Service Provision (X)	Management of Value Chain (X)	The Role of Technology in Production and/or Service Provision (X)	Designing Decisions (X)
Designing Decisions (X)	**Pearson Correlation**	.489**	.525**	.221	.276	.287
	Sig. (2-tailed)	.000	.000	.123	.052	
	N	**50**	**50**	**50**	**50**	**50**

The correlation analysis also tested the relationship between designing decisions and SMEs performances. The analysis shows significant relationship between the two variables, which positively confirm the correlation between

designing decisions and SMEs' performances at r = .287 and p< .05. The positive correlation between designing decisions and SMEs performances upholds the hypothesis 4 as true. This implies that SMEs will perform better as they design their decisions through improved productivity.

Table 8. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.319	4	8.580	18.287	.000[b]
	Residual	21.112	45	.469		
	Total	55.431	49			

a. Dependent Variable: Performance
b. Predictors: (Constant), Designing Decisions (X), Management of Value Chain (X), The Role of Technology in Production and/or Service Provision (X), Planning of Production and/or Service Provision (X)
Cronbach's Alpha = 0.7

The positive value of F (stat) and above 1 confirms the strong impact of the planning of production, use of technology, management of value chain and designing decisions on SMEs performances (Table 8).

Table 9. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.019	.807		-2.503	.016
	Planning of Production and/or Service Provision (X)	.122	.120	.115	1.020	.313
	The Role of Technology in Production and/or Service Provision (X)	.804	.192	.415	4.195	.000
	Management of Value Chain (X)	.259	.067	.377	3.889	.000
	Designing Decisions (X)	.225	.106	.231	2.114	.040

a. Dependent Variable: SMEs Performance (Y)

The coefficient's T (figure) above the constant give positive score for production planning, role of technology, designing decisions and value chain management at values above 1. The score indicates a strong correlation between the

variables and SMEs' performances implying that a change in the independent variables which trigger similar change and direction of the dependent variable, SMEs' performance (Table 9).

Table 10. Model Summary

Mod	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.787[a]	.619	.585	.68495

a. Predictors: (Constant), Designing Decisions (X), Management of Value Chain (X), The Role of Technology in Production and/or Service Provision (X), Planning of Production and/or Service Provision (X)

The results of the ANOVA show that the model is statistically significant (0.000), so we can go ahead with the model (Table 4). The coefficient summary shows that technology, value chain management, designing decisions, and value chain are significant predictors of the performance. Adjusted R Square shows our model is very powerful at 0.585.

4.4. Discussion

Having confirmed the relationship between variables we go ahead to design the model as follows. The data show significant correlation between the performance and all the predicted variables. Other showed relationship tested by the study is the observation that planning is related to designing and that technology is related to designing. The correlation between the predictor variable to performance can be described as fairly strong. This implies that objectives play a critical role in influencing the performance and operation management of the SMEs. The study findings are explained in the following section.

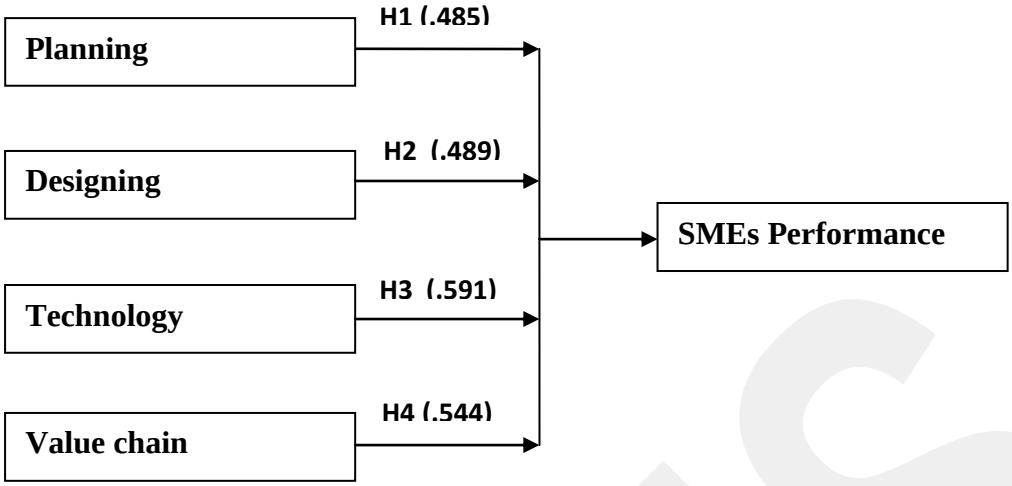

Figure 6. Conceptual Model

4.4.1. H1: Planning of production and/or service provision has a significant impact on SMEs performance in borama town

The 0.485 Pearson correlation value shows the significance of production planning in the performance of SMEs. The positive correlation shows that an efficient or adjustment in planning will necessitate an increase in the performance of the businesses in Borama. That is, it is clear that making critical production planning gives the directors and proprietors an upper in operation management that improves their performances. As such, the study found that production planning addresses various fundamental issues particularly concerning low production and poor quality that undermine the performances of the SMEs (Hundera, 2014). Production planning also necessitates inventory management and effective resource utilization which remain a challenge to many traditional run SMEs. Hence, the correspondents note that production planning is the right ingredient for operational success and management of their businesses.

The study also found that production planning as suggested by the hypothesis suits the definitive front for control mechanisms to ensure that outputs respond to the direct demands of the markets. The process influences what the business produce, methods of production, quantity, and cost to ensure that what is

produced is fully absorbed into the market (Eshete, 2009). The planning offers the long-term drive for the businesses, thereby an inseparable part of performance management. Besides, it also links the study findings to the operation management theory that highlights quality and capacity as some of the emphasis levied by businesses to ensure that their performance is backed by long-term objectives and ambitions. For instance, production planning necessitates capacity utilization that tunes the businesses with the market and forecast demands (Ali, & Isak, 2019). The planning streamlines production to respond to various performance factors. For instance, the directors expect that their planning efforts produce regular and timely products and services to the customers. Production planning also showed to help the directors to build an informed working relationship with other stakeholders like the suppliers who are kept aware of all required materials as part of the planning and scheduling (Adan & Kising'u, 2019). The businesses that do not have large warehouses also use planning as an avenue to avoid overstocking and total waste due to unplanned production. Therefore, the study showed production planning as a critical factor of performance that is central to operation management by businesses in Borama Somaliland.

The aim of the SMEs in enacting the production planning is to improve their production as a factor of sales and distribution growth. The businesses are investing in this scheme as performance strategy but the ultimate result is to obtain the highest growth in the market. The correspondents view on the production planning indicates that the SMEs are prioritizing every element of planning to ensure that they achieve the highest level of produce. The low capacity in the market also exonerates this objective with businesses still facing a larger gap in service and produce production to fulfill. Majority of the SMEs are pulling their intellectual capacity in planning to ensure that they attain their desired objectives. As a result, the SMEs are enhancing their competitiveness by focusing on skill development, something that the larger companies have greatly mastered. The SMEs are considering skills as a production input that is increasingly changing the face of their operations. Hence, the SMEs aim at improving their performances through skill development and improved development.

4.4.2. H2: The role of technology in production and/or service provision has a significant impact on SMEs performance in borama town

The study found a positive correlation between technology and performance thereby confirming the hypothesis arguing that technology has a significant impact on SME's performances in Borama town. Both the Pearson correlation and t-stat value are positive for this variable indicating that its relationship with performance admissible as statistically strong enough (Selase et al., 2019). This implies that the businesses look at technology as a driver for their operations and growth factor. The assumption is due to the high absorption of technology in the market and the competitive edge that comes with its use thereby demanding more use.

At 0.591 Pearson correlation value and 4.195 t-value, the study showed a very strong relationship between technology and the SMEs' performances. The findings indicate a high influence of technological incorporation in business operations (Mohamed, 2017). The efforts of technological incorporation by the businesses are triggered by the participatory influence role of technology in the growth of businesses, which touches areas like marketing and communication.

Production as production tool

To some extent, technology is also being adopted as a survival tactic due to the increasing competition in the market. As such, technology is applied as a change factor based on its wide ability to influence operations from sourcing of materials to supply of finished goods. Technology was observed to influence formal strategy development, customer relations, technical feasibility indirect production process, cost-effective innovations, and sustainable development (Guled, 2017). For a developing market like Somaliland, the emphasis of technology is built on the foundation of cheaper production or efficiency of doing business. Though some local production SMEs still use traditional or mechanical production methods, the acceptance of technology is considered an improved way of production. The objective is to invest in technology to ease the way of operation, particularly in managing labor cost that is a characteristic of mechanical production. Technology

increases production by supporting mass production through techniques like computerization that increase both the hours of concentrated production and the conversation rate of raw materials into finished goods. The realization of mass production is a trend even in the Somaliland market that inspires the businesses to adopt technology efficient production methods to increase the unique produced per time (Hassan, 2018). This remains one area where technology has outdone human-based production. Machines can run for so long than human labor hence ensuring that companies achieve the highest quantity per time. Besides, technology has also become a control element for product and service quality. The technology-backed production processes have a quality mechanism or production methods that ensures that goods or products meet the desired quality. Hence, the SMEs in the study region has a productive interest that supports their decision to invest in technology as a facilitator of high production.

Use of technology in communication and marketing

Communication and marketing are noticeable use of technology that has enhanced the performances of SMEs. Modern mobile-based technology provides a simple collective way of managing businesses. Mobile technology has made it easy for businesses to make orders and follow up on their suppliers. For a simple garget, the businesses can access suppliers and other stakeholders involved in the production. The technology is also shown effective in the marketing of their products and customer management (Ramayah et al., 2009). Mobile applications and social media are steadily being accepted in the market as business management features that define the competitiveness of businesses (Mustafa & Yaakub, 2018). It is more efficient and cheaper for the business to advertise their products through social media. The velocity of the platform is key to the growth of the market. As such, the SMEs in Borama are much attracted by the growing trend of social media use for marketing and customer accessibility (Igwe, 2020). The efforts of the businesses can be shown by the high acceptance of technology's role than other variables tested. The high dependence of performance on technology is also evident in the high t-test result that shows a very strong relationship between technology and businesses'

performances. Therefore, it is clear that technology is the main influencer of the businesses, performances in the market as it offers a change factor and future opportunity for growth.

4.4.3. H3: management of value chain has a significant impact on SMEs performance in borama town

The inclusion of value chain management in OM emphasizes the need to acquire objective-based management of the operations. The survey showed the emphasis of the value chain in the performance of the SMEs at a positive value of 3.889 t-value and 0.544 for the Pearson correlation value. The study showed that SMEs employ value chain management as an entry strategy into the global value chains. With most of the businesses surveyed working engaged on the supply chain and productive mobility, following the global value chain through direct and indirect participation places the companies at a competitive advantage. One of the guiding trends in the selection of suppliers is based on quality. The SMEs must ensure that the products and services that they source are of the best quality or meet the trending market standards since the majority remains competing against the big companies and corporations that supply them the same products (Mohamed, 2014). The SMEs also ensure affordable costs for the products and services. However, the cost is not to override the quality factor. The business achieves the low cost of production but using locally available products and sourcing from the productive markets to ensure that the final goods and services are sold at sustainable market prices and at the best quality that trend in the markets. The focus on the value chain complies with the market trends where the consumers are attracted to quality rather than quantity. The market is also opened to value improvement through price factors, technology, flexibility, and other factors. Hence, the businesses were attracted to value chain management as a progressive strategy to improve their performances by following the trending faces and setting new trends in the market.

Value chain management necessitates the setting of objectives for the SME to competitive the major corporations. By participating in an already biased market, only acute strategies for value development can help the SMEs withstand market

pressure. Setting objectives provides a proactive avenue used by SMEs to best understand the operating market and its customers. By identifying the value chain as a target, the businesses are relying on long-term objectives that trace their production process from the sourcing of production materials to the production of the finished product (Mohamed, 2014). In the beginning, the business aims at identifying quality materials that will produce the desired products. For the supplying businesses, initiating a trace method on the materials used to manufacture the products guarantees the business quality products (Jansen, 2017). The firms have also emphasized production objectives based on value addition and improvements. All the correspondents note that the inclusion of technology and innovation provides a base for credible value chain management by ensuring that all the right processes are applied. Technology not only facilitates the process but also exemplifies the efforts and emphasis of production management as a long-time process. The efforts include the elimination of faulty processes. As such, the companies have a better chance of realizing change as exhibited as in the study to work along with reputable objectives that makes them realize their main objective of quality, affordable, and time-conscious products.

Creation of competitiveness

Value chain management helps SMEs become attractive to leading corporations. Like any other business in the market, SMEs need to work in a manner that helps them win potential clients. The approach is more or strategic positioning used to ensure that the businesses are placed in the right position at the right time. The approaches include enhancing the quality management rights and functions of the small businesses to ensure that they not only compete with the big companies but also position themselves in the right position through progressive value development and quality management. The businesses are also proving their interest in quality and valuable information management. The increasing ability of small businesses to codify the market information helps them build avenues for creating and protecting values in the market. The attraction of the businesses can also be defended by their pursuit of capable and reliable suppliers. The emphasis on the reliability of the

suppliers helps the business that does not manufacture their products. The emphasis is to ensure that the businesses source the best products from the topmost suppliers in the market. Hence, it is an intentional approach adopted to ensure that quality is retained as the definition of the value in the products traded.

The businesses are also in no doubt enhancing their entrepreneurial and compliance with market standardization. Innovation is a critical sector of operations management, and more explicit when driven by an entrepreneurial spirit (Jansen, 2017). The objective is to ensure that their operations are managed with the key objective to make a profit. This is the distinguishing factor between successful and failed businesses. While at times competition could make the businesses operate under a lean profit margin, getting a sustainable return could be a stability strategy that keeps the SMEs in business (Lunati, 2008). The entrepreneurial spirit helps the companies develop a value-based approach as opposed to the sale based where lean profits are earned at a high-quality value that will help the SMEs outdo their competitors in the future. Therefore, the value chain amendment ensures that the businesses focus on value creation to remain sustainable in the market as opposed to pursuing a pure profitability objective.

4.4.4. H4: designing decisions have a significant impact on SMEs performance in borama town

The study also found designing decisions to impact the performance of the SMEs. Businesses have realized the importance of making critical decisions that suits the growing needs of the customers. From an egocentric position, the focus of the business has been enhanced by a new decisional strategy to intentionally use designing decisions as a source of strength.

One of the key elements of designing decisions applied by the businesses in making informed decisions. Businesses have taken advantage of the growing need for using credible information to make the right decisions. The presence of technology and other mobility factors have made it easy for organizations to access the right data or information that helps them in making the right decisions. As such,

the organization can make credible investment decisions with a focus on the culminating factors that affect their operations. Such include deciding to counter their competitors or follow their actions in the market. The use of the variable in the industry has also added to the competitive advantage of the SMEs against the larger corporations (Casalino et al., 2019). While the corporations enjoy the market and resource domination as their main competition assets, the SMEs rely on aligned decisions to build a competitive advantage amidst the stiff competition in the market. Therefore, by confirming the relationship between designing decisions and the performance of the SMEs, the study shows the ability of the variable to influence their performances in the market and industry.

Enterprise performance

The Borama SMEs show valuable asset in technological acquisition, innovation, value chain management, design planning, and production planning that intertwines into the pragmatic population and culture. The factors define the overall performance of the enterprises that makes the nation make substantial strides in business operations. Notably, the business ventures have relied on foreign remittance as capital injection and consumption income. The economy works under the informal cultural adherence where business has a higher familial affiliation and cultural identity (Mousley et al. 2015). The approach has allowed the businesses to develop without overburdening their available limited resources. The method employs a locally drive capital mobilization using the two main national income earners for the economy; livestock production and foreign direct remittance. Therefore, the Borama businesses are building fundamental environments under which its SMEs are built on available resources and cultural base in the market.

The respondents also signified an impactful performance based on moral and right balance of regulations through the attempts made by the authority to ease business operations through platforms to which the Borama business community have dully being part of. The efforts levied also double as a strategy used by the SMEs to position themselves in the lean markets. Coupled with stiff competition

from the bigger companies, the SMEs are investing their resources to stage a formal footprint in the market. the firms are utilizing every available avenue to create more predictable, formal and transparent business structures that suits their objectives of makes them as competitive enough as the larger corporations. The businesses are also acquiring more local regulations for won practice to ensure that they are best place to compete in the markets (Mousley et al., 2015). For instances, the concept of the balance of right is becoming a necessity considering the increasing regulations of business operations being adopted by the government. The moves are in is line with the objective to elevate the national market to global standards thereby promoting the opportunity available for the SMEs in the Borama town (Mousley et al., 2015). The SMEs are also conforming to the national aim to drive business growth based on skilled labor, innovativeness and profitable enterprise performances. Therefore, though regulatory factors are not evidently looked at, their introduction is providing sufficient ground for the MSEs to enhance their performances across the markets.

The SMEs' investment in technology, design planning, production planning, and value chain management can also be evidently measured in the sale and jobs made in the market. The drastic changes in the sales and jobs levels experienced in the market due to the growth of the SMEs. Sales and jobs created can be accounted for and audited annually thereby providing an accountable measure for the SMEs performances. The SMEs measures their performances as an overall profitability initiative. As such, sales elements and the number of employees employed provide the best framework for measuring or gauging that growth (Mousley et al., 2015). The measures provide the enterprise performance that doubles as the overall market performances. Therefore, the ultimate profitability objective of the SMEs influences their performances in the market.

Development strategies

Apart from relying on the performance indicators as core of their operational performance, SMEs are also acquiring competitive edges to keep them at par in the industry. According to Cabral, Carvalho, and Ferreira, (2020) SMEs are widening their space to take growing markets as do other larger corporations. The pursuit for

better market share has pushed the small enterprises into taking critical positions in the market. For markets like Somaliland that depend on foreign remittance and livestock exportation, internationalization of the strategies used by the MSEs to position themselves sin the market. The SMEs rely on the connection created with their foreign to realign themselves in the market. The objective of the companies is to build a stronger position in the market to be able to tackle some of the basic business transactions in the market. The focus ensures that SMEs are recognized based on their ability to provide the services require and produce the good needed and not for the local role in the place. On the other hand, the businesses are building a stronger position because of the gaps in the market. For a young market like Somaliland, the local businesses have higher chance but that chance must be met with a stronger internationalization mentality as the epitome of their development to ensure that they compete enough to lodge out the international businesses in the market. For instance, the SMEs are picking strongly in pastoral, financial and hotel sectors. The manager agrees that the opportunities available in the market are better served when the SMEs elevate their participation to achieve the capacities that put them at the same place as the bigger corporations. The rise in indigenous small financial institutions in Borama town such as credit and saving societies are offering a competitive opportunity in the market for the businesses thereby extending the feasibility in the market. The investment has been supported by innovation and technology that expand the efforts of the companies.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study found a positive relationship between the variables and the SMEs' performance. Both the statistical hypotheses test analysis shows positive values that imply that the relationship tested is very strong. The study findings are based on the shown method used and not the contemporary assumptions held about the target market. For instance, the role of technology shows the highest interdependence on the performance of SMEs. The same position though on different scales applies to the other variables. Undoubtedly, the SMEs at Borama can be described as progressive based on their adoption of the operation management factors.

The companies pose greater substantive effect on their operational performance by using productive planning. The study found that productive planning is important in building a defendable use of resources by the SMEs. The firms are also limited hence the application such a strategy ensures that they make use of available resources effectively without overriding or wasting them. As such, as the SME continue to implement productive planning in their operations, they are setting themselves ready for greater performance in the market that might aggressively outdo the bigger companies in the town.

The SMEs have also realized the undeniable importance of technology. The use of technology elevates the ability to the SMEs to do better their improving their overall performances. From a production point of view, the SMEs indicate feasibility in using technology to improve the quality and quantity of their products and services. On the other hand, technology is taking a notch higher in communication and marketing, which have become an epitome for the businesses. Therefore, technology has been able to promote production, communication, and other sectors of performance in the market.

The SMEs are improving their performance through designing decisions and management of value chain. The designing decision allows the companies to build a futuristic approach to business in the same manner as their senior peers in the market. The SMEs tend to be more organized in their design planning as opposed to following regular traditional schemes thereby proving its ability to enhance their overall performances. On the other hand, value chain management is become another critical element of production used by the companies. The management of values prom production to supply gives the SMEs quality efficiency is another winning point in the market. it is evident that the Borama SMEs are building on value chain as a production strategy and factor. Therefore, the SMEs have all the reason to focus on proper management of all elements of value chain to better grasp the market.

Recommendation

However, like mentioned earlier, the study was faced with few challenges. One general challenge faced in the study was the mobility restrictions forcing the research to be undertaken in limited and resources. Hence, it is recommended that future studies be early enough to avoid the last-minute rush that can undermine the validity and reliability of data collected.

The study also recommended face-to-face interviews to capture the experimental perspective of the directors and business associates that this study could not accommodate due to time and resource restrictions. The face-to-face interviews, though cumbersome, offer great opportunity of understanding the empirical views and providing more details of the study questions. Future studies should consider such differences to enhance the quality of data collection and study findings. However, on the development of the SME, there is still greater gap in the market that the businesses can maximize to improve their performances.

First the SME must realize that technology is a necessity under current business environment. Whether remotely, the SMEs must invest further in technology top take advantage of the existing opportunities it offers. For instance, livestock and foreign remittance being the main source of income for Somaliland, the

SMEs should investment in financial technology and supply chain to ensure that businesses support structure are better developed. The SMEs should also promote inclusion of technology in communication and marketing to get a better grasp of the market.

The firms must also look at value chain management as a direct production strategy. Value chain management offer opportunities to directly control the quality of goods and services thereby tapping into the quality focus controlled by the larger corporation. One way of improving and incorporation value chain management should be collaboration with the bigger institutions.

Production planning also great opportunity. The SMEs take advantage to ensure that limited resources are effectively managed. For instance, most managers quoted financial sustainability as a challenge. The SMEs must them employ strategies that promote production. Coupled with design planning, the SMEs can improve their performances to better compete the bigger companies.

REFERENCES

Adan, A. O. S., & Kising'u, T. M. (2019). Factors Influencing Micro and Small Business Enterprises'performance in Mogadishu, Somalia. *The Journal of Business & Change Management*, 496 – 516. doi:10.32388/6q630r

Agrifoglio, R., Cannavale, C., Laurenza, E., & Metallo, C. (2017). How emerging digital technologies affect operations management through co-creation. Empirical evidence from the maritime industry. *Production Planning & Control, 28*(16), 1298–1306. doi:10.1080/09537287.2017.1375150

Ali, A. Y. S., & Isak, A. O. (2019). Financial management practices and financial performance of service companies in Somalia. *Financial Management*, *10*(4), 59 – 68. doi:10.7176/rjfa/10-4-07

Alvesson, M., Hardy, C., & Harley, B. (2008). Reflecting on reflexivity: Reflexive textual practices in organization and management theory. *Journal of management studies*, *45*(3), 480-501. doi:10.1111/j.1467-6486.2007.0076

Belmokaddem, M., Mekidiche, M., & Sahed, A. (2009). Application of a Fuzzy Goal Programming Approach with Different Importance and Priorities to Aggregate Production Planning. *Journal of Applied Quantitative Methods*, *4*(3), 317 -358.

Bloss, M. L., Capes, G. W., Seib, R., Alford, L. V., Light, J. L., Minniakhmetov, I., & Nielsen, C. (2020). Value chain excellence–managing variability to stabilise and exploit the mine value chain. *Mining Technology*, *129*(4), 187-205. doi:10.1080/25726668.2020.1818029

Cabral, Â. M. R., Carvalho, F. M. P., & Ferreira, J. A. V. (2020). International Performance of SMEs' International Strategic Groups. *Administrative sciences*, *10*(3), 65. 3- 24. doi:10.3390/admsci10030065

Chan, J. O. (2007). A predictive analytic model for value chain management. *Journal of International Technology and Information Management, 16*(1), 5 – 46.

Chege, S. M., Wang, D., & Suntu, S. L. (2020). Impact of information technology innovation on firm performance in Kenya. *Information Technology for Development*, *26*(2), 316-345. doi:10.1080/02681102.2019.1573717

Cho, M., Song, M., Comuzzi, M., & Yoo, S. (2017). Evaluating the effect of best practices for business process redesign: An evidence-based approach based on process mining techniques. *Decision Support Systems*, *104*, 92-103. doi:10.1016/j.dss.2017.10.004

Cohn, D., & Hull, R. (2009). Business artifacts: A data-centric approach to modeling business operations and processes. *IEEE Data Eng. Bull.*, *32*(3), 3-9.

Dalizu, J. M. (2018). Effects of operational management practices on the performance of health insurance companies in Kenya (Thesis). Strathmore University. Retrieved from shorturl.at/rCMW3

Dauzère–Pérès, S., & Lasserre, J. B. (2002). On the importance of sequencing decisions in production planning and scheduling. *International transactions in operational research*, *9*(6), 779-793. doi:10.1111/1475-3995.00388

Debebe, R. (2021). The Effect of Small and Medium Enterprises in Employment Creation and Income Generation in Somali Regional State: A Case of Kebridahar Town. *Munich Personal RePEc Archive*. MPRA Paper No. 105879, 1 – 32.

Debebe, R. (2021). The Effect of Small and Medium Enterprises in Employment Creation and Income Generation in a case of Kebridahar Town: Qorahe Zone, Somali Region State, Ethiopia. *Munich Personal RePEc Archive*, University Library of Munich, Germany, 2-12.

Dincer, H., Hacioglu, Ü., & Yüksel, S. (2018). Strategic design and innovative thinking in business operations. *Series: Contributions to Management Science. Publisher: Springer International Publishing*. 978-3-319-77622-4. 2 – 471.

Dodgson, M., Gann, D., & Salter, A. (2006). The role of technology in the shift towards open innovation: the case of Procter & Gamble. *R&D Management*, *36*(3), 333-346. doi:10.1111/j.1467-9310.2006.00429.x

Eshete, y. (2009). Analysis of Drudgery and Agricultural Labour Contribution of Married Women in Pastoral System: The Case of Gode Zone, Somali National Regional State, Ethiopia. *Haramaya University*, 15 – 187.

Evans, J. R., & Collier, D. A. (2007). Operations Management: An Integrated Goods and Services Approach. *Thomson/South-Western*, 23 – 87.

Fening, F. A. (2012). Impact of quality management practices on the performance and growth of small and medium sized enterprises (SMEs) in Ghana. *International Journal of Business and Social Science*, 3(13).

George, D., & Mallery, P. (2003). Cronbach's alpha. *SPSS for Windows Step by Step: A Simple Guide and Reference, 11*, 231.

Golpîra, H., Khan, S. A. R., & Zhang, Y. (2018). Robust smart energy efficient production planning for a general job-shop manufacturing system under combined demand and supply uncertainty in the presence of grid-connected microgrid. *Journal of Cleaner Production*, *202*, 649-665 doi:10.1016/j.jclepro.2018.08.151

Gordić, B. (2017). Flexible optimization in the process of planning and production control. *Tehnicki Vjesnik/Technical Gazette*, *24*(4), 1087 – 1094. doi:10.17559/tv-20160112132024

Greenwood, R. (2016). OMT, then Then and now. *Journal of Management Inquiry*, *25*(1), 27-33. doi:10.1177/1056492615592105

Grönroos, C. (2017). On value and value creation in service: a management perspective. *Journal of Creating Value*, *3*(2), 125-141. doi:10.1177/2394964317727196

Guled, N. S. (2017). Factors influencing women entrepreneurs' business success in Somalia. *Istanbul Aydin University Institute of Social Sciences*. DOI:10.5296/RBM.V5I1.12341 . 11- 41.

Ham, I., Hitomi, K., & Yoshida, T. (2012). *Group technology: applications to production management*. Springer Science & Business Media.

Ham, S., Kim, W. G., & Jeong, S. (2005). Effect of information technology on performance in upscale hotels. *International journal of hospitality management*, *24*(2), 281-294. doi:10.1016/j.ijhm.2004.06.010

Hassan, A. S. M. (2018). Assessing the Effect of Microfinance Institutions' Services on Financial Performance of Small Scale Enterprises in Somalia: A Case of Mogadishu City. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 7(7), 40-55. doi:10.20431/2349-0381.0707005

Heizer, J. & Render, B. (2006). *Principles of operations management*, 6e. Peason. Prentice Hall, Inc.

Hundera, M. B. (2014). Micro and small-scale enterprises (MSEs) development services in women's entrepreneurial start-ups in Ethiopia: A study conducted in three cities: Dire Dawa, Harar and Jigjiga. *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport*, *2*(4), 77-88.

Jamalnia, A., Yang, J. B., Feili, A., Xu, D. L., & Jamali, G. (2019). Aggregate production planning under uncertainty: a comprehensive literature survey and future research directions. *The International Journal of Advanced Manufacturing Technology*, *102*(1), 159-181. doi:10.1007/s00170-018-3151-y

Jamalnia, A., Yang, J. B., Xu, D. L., Feili, A., & Jamali, G. (2019). Evaluating the performance of aggregate production planning strategies under uncertainty in soft drink industry. *Journal of Manufacturing Systems*, *50*, 146-162. doi:10.1016/j.jmsy.2018.12.009

Ji, S., Chen, Q., Shu, M., Tian, G., Liao, B., Lv, C., ... & Cheng, Y. (2020). Influence of operation management on fuel consumption of coach fleet. *Energy*, 203, 117853. doi:10.1016/j.energy.2020.117853

Jones, P., & Robinson, P. (2012). *Operations management*. Oxford University Press.

Keno, T. (2012). Outreach Frontiers of Microfinance Service Development in Rural Ethiopia: A Case of Shinile District in Somali National Regional State. *Journal of Economics and Sustainable Development*, *3*(7), 40-50.

Kiess, H. O., & Bloomquist, D. W. (1985). *Psychological research methods: A conceptual approach*. Allyn & Bacon.

Koh, S. L., Simpson, M., Padmore, J., Dimitriadis, N., & Misopoulos, F. (2006). An exploratory study of enterprise resource planning adoption in Greek companies. *Industrial Management & Data Systems, Emerald Group Publishing Limited*, 106 (7), 1033-1059. doi:10.1108/02635570610688913

Kucuk, S. U. (2017). Marketing and Marketing Mix. In *Visualizing Marketing* (pp. 3-7). Palgrave Macmillan, Cham.

Kuhnle, A., Kaiser, J. P., Theiß, F., Stricker, N., & Lanza, G. (2021). Designing an adaptive production control system using reinforcement learning. *Journal of Intelligent Manufacturing*, *32*(3), 855-876. doi:10.1007/s10845-020-01612-y

Kuznetsov, V. P., Garina, E. P., Romanovskaya, E. V., Kuznetsova, S. N., & Andryashina, N. S. (2018). Organizational design and rationalization of production systems of a machine-building enterprise (by the example of the contract assembly workshop). *Espacios*, *39*(1), 25 – 34.

Majid, N. & Musa, A. M. (2020). Somaliland and COVID-19: Emerging Issues and Economic Impact. *London School of Economics and Political Science*. Online Report.

Malik, A. I., & Sarkar, B. (2019). Coordinating supply-chain management under stochastic fuzzy environment and lead-time reduction. *Mathematics*, *7*(5), 480 – 501. doi:10.3390/math7050480

Malleret, V. (2006). Value creation through service offers. *European Management Journal*, *24*(1), 106-116. doi:10.1016/j.emj.2005.12.012

Metallo, C., Agrifoglio, R., Schiavone, F., & Mueller, J. (2018). Understanding business model in the Internet of Things industry. *Technological Forecasting and Social Change*, *136*, 298-306.

Mohamed, N. A. (2014). *The influence of entrepreneurship training and financial grant on youth-owned enterprises: The case of Shardo youth enterprise development programme in Somalia* (Doctoral dissertation).

Mohamed, N. A. (2017). The Influence of Entrepreneurship Training and Financial Grant on Youth-Owned Enterprises in Somalia.

MoNP&D, (2011). Draft Somaliland National Development Plan (NDP): Hargeisa: Somaliland: National Printing Press.

Mousley, P., Ndiaye, J., Wimpey, J., Amin, M., Votava, C., Nicoli, M., ... & Phillips, D. A. (2015). *Somaliland's Private Sector at a Crossroads: Political Economy and Policy Choices for Prosperity and Job Creation*. World Bank Publications.

Mugenda, O. M., & Mugenda, A. G. (1999). *Research methods: Quantitative and qualitative approaches*. Acts press.

Mula, J., Poler, R., & Garcia, J. P. (2006). MRP with flexible constraints: A fuzzy mathematical programming approach. *Fuzzy sets and systems*, *157*(1), 74-97. doi:10.1016/j.fss.2005.05.045

Ndururi, J. G. (2020). Innovation Capital and Growth of Women-Owned MSEs in Central Kenya Counties. *Journal of Entrepreneurship & Project management*, *4*(6), 68-78.

Nikoloski, K. (2014). The role of information technology in the business sector. *International Journal of Science and Research (IJSR)*, *3*(12), 303 – 309.

Olhager, J. (2012). The role of decoupling points in value chain management. In *Modelling value* (pp. 37-47). Physica-Verlag HD.

Omar, S., & Yonis, M. (2005). Community Empowerment: The Experience of the Northwestern Integrated Community Development Program in Somaliland. Bright spots demonstrate community successes in African agriculture. *The International Conference on Successes in African Agriculture in the Greater Horn of Africa*, 49 – 89.

Orth, D., Thurgood, C., & Hoven, E. V. D. (2019). Designing meaningful products in the digital age: How users value their technological possessions. *ACM Transactions on Computer-Human Interaction (TOCHI)*, *26*(5), 1-28. doi:10.1145/3341980

Oso, W.Y. (2013). *Principles and practice of educational research.* Borama; Somaliland: Barkhadle Printing.

Outputs, P. (1987). Operations Management. *Geocities Publications*. 2 – 34.

Penin, L. (2018). *An introduction to service design: designing the invisible*. Bloomsbury Publishing.

Rainbird, M. (2004), A framework for operations management: the value chain. *International Journal of Physical Distribution & Logistics Management*, *34* (3/4), 337-345. doi:10.1108/09600030410533628

Randall, S. (2007). *Ten principles of operations management.* Denver. Colorado

Robleh, M. H. (2017). Factors Influencing the Performance of Small and Micro Enterprises (SMEs) in Somaliland a Case Study of Hargeisa City. *Global Journal of Management and Business Research*, *17*(5), 1 - 19

Schiavone, F., & Sprenger, S. (2017). Operations management and digital technologies.

Schmenner, R. W., & Swink, M. L. (1998). On theory in operations management. *Journal of operations management*, *17*(1), 97-113. doi:10.1016/s0272-6963(98)00028-x

Siepmann, F. B., Ripari, V., Waszczynskyj, N., & Spier, M. R. (2018). Overview of sourdough technology: From production to marketing. *Food and Bioprocess Technology*, *11*(2), 242-270. doi:10.1007/s11947-017-1968-2

Sigala, M., & Marinidis, D. (2012). Web map services in tourism: a framework exploring the organisational transformations and implications on business operations and models. *International Journal of Business Information Systems*, *9*(4), 415-434. doi:10.1504/ijbis.2012.046293

Skokan, K., Pawliczek, A., & Piszczur, R. (2013). Strategic planning and business performance of micro, small and medium-sized enterprises. *Journal of Competitiveness*, *5*(4), 57 – 72. doi:10.7441/joc.2013.04.04

Slack, N., Chambers, S., & Johnston, R. (2007). Operations management 5th edition. *Prentice Hall Publications*, 129-131.

Soliman, F., & Youssef, M. A. (2003). Internet-based e-commerce and its impact on manufacturing and business operations. *Industrial Management & Data Systems*. 103, 8/9; ABI/INFORM Collection, 546 – 553.

Steven, C., Wheelwright, and Robert, H. (2018). *Strategic management: Formulation and implementation*. The Operations Management Process.

Stevenson, W. J. (2005). *Operations management.* McGraw-hill.

Tetik, M., Peltokorpi, A., Seppänen, O., & Holmström, J. (2019). Direct digital construction: Technology-based operations management practice for continuous improvement of construction industry performance. *Automation in construction*, *107*, (102/910), 2 – 17. doi:10.1016/j.autcon.2019.102910

Tomassini, L. (2019). The co-creation of diverse values and paradigms in small values-based tourism firms. *Tourism Recreation Research*, *44*(3), 359-369.

Utterwulghe, S. (2014). Is Somaliland truly "Open for Business?" Moving past the conventional narrative of fragile state. *World Bank Publication*.

Vastag, G. (2000). The theory of performance frontiers. *Journal of Operations Management*, *18*(3), 353-360. doi:10.1016/s0272-6963(99)00024-8

Verberne, F. M., Ham, J., & Midden, C. J. (2012). Trust in smart systems: Sharing driving goals and giving information to increase trustworthiness and acceptability of smart systems in cars. *Human Factors*, *54*(5), 799-810. doi:10.1177/0018720812443825

Vidgen, R., Shaw, S., & Grant, D. B. (2017). Management challenges in creating value from business analytics. *European Journal of Operational Research*, *261*(2), 626-639. doi:10.1016/j.ejor.2017.02.023

World Bank. (2015). *Somaliland's Private Sector at a Crossroads: Political Economy and Policy Choices for Prosperity and Job Creation*. The World Bank. Online.

A QUESTIONNAIRE ON

Annex 1. The Impact of Operations Management Practices on Smes Performance: Evidemces From Borama Town, Somalia

Dear Respondent;

This study is conducted to investigate association between operation management practices and SMEs performances as part of requirement for the fulfillment of Master of Business Administration degree at Atilim University. Your responses as a director or manager of a Small and Medium size Enterprise are very critical to this study. We kindly request you to complete the questionnaire enclosed and return it to the researcher. All information provided is strictly confidential and will not be shared to a third party.

Part A- Background Information

a) Designation of respondent …….

b) Type of SME. Product oriented ☐ Service oriented ☐

c) Year of incorporation……

d) Department of respondent…….

e) Number of years worked in the department……..

f) Level of education…….

g) Location of business: Sheikh Ali Jowhar ☐ Sheikh Osman ☐ Sheikh Makahil ☐ Sheikh Ahmed Salan ☐ Central Business District ☐ Other ☐

Part B

Personal view on operations management practices

1. What is your degree of involvement in implementation of operations management principles? Tick appropriate option, or explain.

   Actively involved ☐

   Not involved at all ☐

   Not aware ☐

2. Have you personally noticed any changes in your organizations performance? Tick appropriate option, or explain

   Big improvement ☐

   No improvement ☐

   Small improvement ☐

   Not aware ☐

3 Would you advocate for continued application of Operations Management principles?

   Yes ☐

   No ☐

PART C

Objective one: Planning of production and/or service provision

4. To what extent has the Planning of production and/or service provision impacted on SMEs performance in Borama town? Tick the appropriate score for each statement in the order of this scale. (5) Strongly agree (4) Agree (3) Neutral (2) Disagree (1) Strongly disagree

Planning of production and/or service provision

Statements	SCORES				
	1	2	3	4	5
1. SMART goals for production and/or service provision are well set out					
2. Strategies for action to realize set goals are in place					
3. Regular feedback mechanism is in place to monitor deviation from set goals					
4. Corrective action is always taken to ensure goal achievement					

5. How often does management meet to evaluate milestones achieved?

Always ☐ Sometimes ☐ Never ☐

Objective two: The role of technology in production and/or service provision

To what extent has the use of technology in production of goods and/or provision of services improved SMEs performance in Borama town?

Using the scale provided select the appropriate score. 5=Strongly agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly disagree.

Statements	Scores				
	1	2	3	4	5
1. Has your company embraced technology in creating goods and services?					
2. Has technology helped your company to understand the needs and wants of your customers better?					
3. Despite the challenges of using technology in production of goods and provision of services, the benefits outweigh the disadvantages?					

Objective three: Management of value chain

Is there a sustainable vertical integration with suppliers and distributors in your organization?

Yes ☐ No ☐

If yes please respond to the following statements/questions to select appropriate score using the scale provided: 5=Strongly agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly disagree

Statements	Score				
	1	2	3	4	5
1. Is your firm able to increase product/service benefits without increasing price?					
2. Is the firm able to increase product/service perceived benefits whilst reducing price?					
3. Is the firm able to decrease product/service price without decreasing perceived benefits					

Objective four: Designing decisions

To what extent has project planning influenced implementation of your projects? Choice appropriate scores to the following statements based on scale provided. 5=Strongly agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly disagree

Statements	Scores				
	1	2	3	4	5
1. Are processes that produce goods and services well designed?					
2. Are goods and/or services on offer well designed?					

Objective 5: Small Medium Enterprise SMEs Performance

Please respond to the following statements/questions to select appropriate score as regards the performance of your organization using the scale provided:

5= Highly Satisfied, 4= Satisfied, 3=Neutral, 2=Dissatisfied, 1=Highly Dissatisfied

Statements	**Scores**				
	1	2	3	4	5
1. You are satisfied with the performance of your organization?					
2. Ho satisfied are you with the way your company efficiently and effectively meets its stated objectives					
3. How satisfied are you with your company's efficiency of business functions and processes?					
4. Are you satisfied with the accountability of people in your organization?					
5. Are you satisfied with the ease in which your company obtain and use resources?					
6. Are you satisfied with the way in which your organization meets the needs of its stakeholders					

ORİJİNALLİK RAPORU

%3	%3	%0	%1
BENZERLİK ENDEKSİ	İNTERNET KAYNAKLARI	YAYINLAR	ÖĞRENCİ ÖDEVLERİ

BİRİNCİL KAYNAKLAR

1	repo.umma.ac.ke İnternet Kaynağı	%1
2	Submitted to Atilim University Öğrenci Ödevi	<%1
3	ir-library.ku.ac.ke İnternet Kaynağı	<%1
4	repository.ummat.ac.id İnternet Kaynağı	<%1
5	www.grossarchive.com İnternet Kaynağı	<%1
6	www.strategic-control.24xls.com İnternet Kaynağı	<%1
7	etd.uum.edu.my İnternet Kaynağı	<%1
8	dspace.uii.ac.id İnternet Kaynağı	<%1
9	repository.unam.edu.na İnternet Kaynağı	<%1

10	Submitted to Kenyatta University Öğrenci Ödevi	<%1
11	Submitted to Intercollege Öğrenci Ödevi	<%1
12	ijmer.in İnternet Kaynağı	<%1
13	Submitted to Universiti Teknologi MARA Öğrenci Ödevi	<%1
14	nrb.org.np İnternet Kaynağı	<%1
15	riset.unisma.ac.id İnternet Kaynağı	<%1
16	Submitted to hotelschool Öğrenci Ödevi	<%1
17	August Wierling, Valeria Schwanitz, Jan Zeiß, Celine Bout, Chiara Candelise, Winston Gilcrease, Jay Gregg. "Statistical Evidence on the Role of Energy Cooperatives for the Energy Transition in European Countries", Sustainability, 2018 Yayın	<%1

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Graduate	Master of Business Adminstration	Atilim University	2021

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Work Place	**Position**	**Year**
Honex Express	CEO	2019 -
SONYO	Project Asistant	2014 - 2015
MAM freight	Operation Manager	2013 - 2014
IMO	Project area Coordinator	2012 - 2013

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Publications: The ımpact of operatıons management practıces on SMEs performance: evıdemces from borama town, somalıa

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