

Effects of Supply Chain Operational Practices on Start-up Performance

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Abstract

The number of small businesses and startups have been operating in developing countries and this trend is increasing over time. Most of the small businesses fail due to a lack of awareness about the implementation of effective operations in the Supply chain. The purpose of this research is to explore the relationship between supply chain operational activities on startups performance. The study develops and tests a research model between the relationship of SCOR on startup-up performance. A survey of 50 small businesses has been collected which have established their operations within Pakistan. The gathered data have been analyzed using the SPSS software and performed Regression and Correlation Analysis. The findings do not support the significant relationship between SCOR (Plan, Make, Source, Deliver, Return) on the financial performance ($p=0.127$) of the small businesses. But SCOR has a positive relation to Customer satisfaction ($p = 0.000$) and service level ($p = 0.000$) as per the findings. This research is based on the recommendations of previous research, and further exploring the effects of supply chain operational activities on startup performance that is conducted within Pakistan. As per the researchers' knowledge, this is the first explanatory research that is analyzing the effects of SC Operational activities on startup performance. This research emphasizes the importance of supply chain operational practice and its impact on startups' performance in terms of customer satisfaction and service level. This research would help to further analyze the effects of each practice on each performance indicator of businesses. This research will be useful for small businesses as small business owners can assess their supply chain operations such as their demand planning and forecasting, supplier management, delivery of goods, and return policies in their day-to-day operations and make relevant improvements that help to satisfy and retain their customers for long-run.

Keywords: Supply chain Operational Activities, SCOR Model, Financial Performance, Customer Satisfaction, and Service Level,

Introduction

In the past few years, the trend of small startups has been increasing throughout the world. In many developing countries, unemployment led people to start their businesses on small scale and with little investment. (Ejdenberg, 2016). Promoting small entrepreneurial startups in any country is one of the greatest methods to flourish the economy of the country. (Dinesh & Sushil, 2019) The local government also takes part in this initiative to support small startups by giving them opportunities to finance their businesses and expand them on a long-term basis as it will benefit the economy of the country. Most of the incubations center has been established in the countries who give opportunities to the small businesses to market their business idea. This initiative gives a boost to startups in developing countries. (Sciences et al., 2019) In the times of covid 19, this trend expeditiously increasing due to downsizing and shutting down of businesses throughout the world. (Manolova et al., 2020) Mostly, women are actively initiating small businesses and startups operating from their homes.

Although there is not an objective definition of startups and it may vary person and context-wise, but a startup can also be defined as a short-term organization exploring repetitive and commercially successful business models (Fitria, 2013). Another definition that is given by (Ripsas et al., 2016) is that a startup should have an operating duration below 10 years. It should have a business model that is innovative or is taking advantage of new technologies and there is supposed to be an increasing trend in the turnover rate of the employees. Startups faced a lot of challenges such as rapid changes in technology, political environment, financial issues, etc. Most of the firms failed after some months or years. Due to the increasing importance of small businesses, the stakeholders of small businesses are doing an effort to grow the small businesses and reduce the probability of failures. (Carter & Van Auken, 2006) Researchers are analyzing different factors in determining the component that helps the startup to achieve success and sustain its position in the market.

According to (Ries, 2011) one of the crucial elements to keep your business in operations effectively is to attract, satisfy and retain your customers continuously. The customer will satisfy when the service level of the business is effective to satisfy their needs and the business will become profitable when their customer base is strong. So, these are the prerequisite for any business to survive. Day- to-day operations played an important value to satisfy the customer by giving them a certain service level. In this study, the effects of operational Supply chain practices on startup performance are analyzed in terms of three factors i.e., financial probability, customer satisfaction, and service level.

One of the key functions of any business is its supply chain operations that are carried out on a day-to-day basis. Some key decisions regarding the supply chain are playing an important role in the success or failure of any firm. The SCOR model (Plan, Source, Make, Deliver, Return) is a strong model to analyze the basic operational factor strategically. The purpose of this research is to analyze the cause and effect of supply chain operational practices in the context of the SCOR model (Plan, Source, Make, Deliver, Return) on profitability, customer satisfaction, and service level.

This study will help the startup owners to view these areas more strategically and make decisions accordingly so they will boost their business in the long run. They can perform effective day-to-day operations that help to increase their financial profitability, customer satisfaction, and service level. The three main questions which this research has tried to answer are:

- 1) What is the effect of the major operational decisions on the performance of startups in terms of financial profitability?
- 2) What is the effect of the major operational decisions on the performance of startups in terms of customer satisfaction?
- 3) What is the effect of the major operational decisions on the performance of startups in terms of Service Level?

The scope of this research is related to both theory and practical. For research, this research emphasizes the importance of supply chain operational practices and their impact on startups' performance in terms of financial profitability, customer satisfaction, and service level. This research would help to further analyze the effects of each practice on each performance indicator of businesses. For practical purposes, small business owners can assess their supply chain operations such as their demand planning and forecasting, supplier management, delivery of goods, and return policies in their day-to-day operations and make relevant improvements that help to satisfy and retain their customers for the long run. They can effectively manage their supply chain operations by giving required importance to each area of their operations. The rest of the paper has been structured as follows.

A literature review related to the topic is presented which is followed by the detailed discourse of the theoretical framework. Then, research methodology is mentioned which is followed by the interpretation of results and discussion analysis of findings. The paper is concluded with Limitations and future recommendations.

Literature Review

Supply Chain Management

Due to the increased globalization, market competition has become tough and critical. As a result, the focus on establishing strong supply chain networks has increased by the organizations. The companies are trying to gain a competitive edge based on their strong supply chain designs to achieve customer expectations. (Anand & Grover, 2015) According to (Mentzer et al., 2001), a Supply chain is defined as a set of three entities or more than three parties (Supplier, Focal company, Consumer) who are involved in the upstream and downstream flows consisting of product, information, and funds from one end to another. Whereas Supply chain management is the management efforts that are performed by the organizations externally within that supply chain. (Mentzer et al., 2001) That is why the efficient and effective management of the supply chain has become a critical factor for the success of organizations.

The concept grew acceptance in the 80s after analyzing the cases of successful SCM implementations. (Lummus & Vokurka, 1999). SCM views that consumers should be the focus of all the activities that are performed within a supply chain. Thus, the SCM starts by analyzing the need of the customer and then performed all the functions that are required to fulfill that need. (Jüttner et al., 2010) As a management concept, the purpose of supply chain management is to take all the stakeholders (internally and externally both) under one umbrella to satisfy the customer. It follows a holistic approach to view all the functions performed in different areas of the supply chain. (Ellram & Cooper, 2014)

Startup in Developing Countries

Small business has significant importance in the economic growth of developing countries. Governments and other stakeholders are paying attention to uplift the small business and help them to cope up with the challenges that might push them towards failure. (Carter & Van Auken, 2006) Analyzing the factors that have a positive effect on the startups' performance is a key area of research so that small businesses would be able to pay more attention to such factors while establishing their operations. (Davidsson & Klofsten, 2003)

Operating small businesses in developing countries is far more challenging as compared to the businesses operating in developed countries. These constraints and barriers including financial, human resources, supply chain modules, and technical support. (Olaison & Sørensen, 2014) The effective business model to run the operations of the business is also lacking in small businesses that result in poor financial performance and service level. (Blank, 2007) Moreover, small startups also have to deal with the challenges that every small startup has to face such as

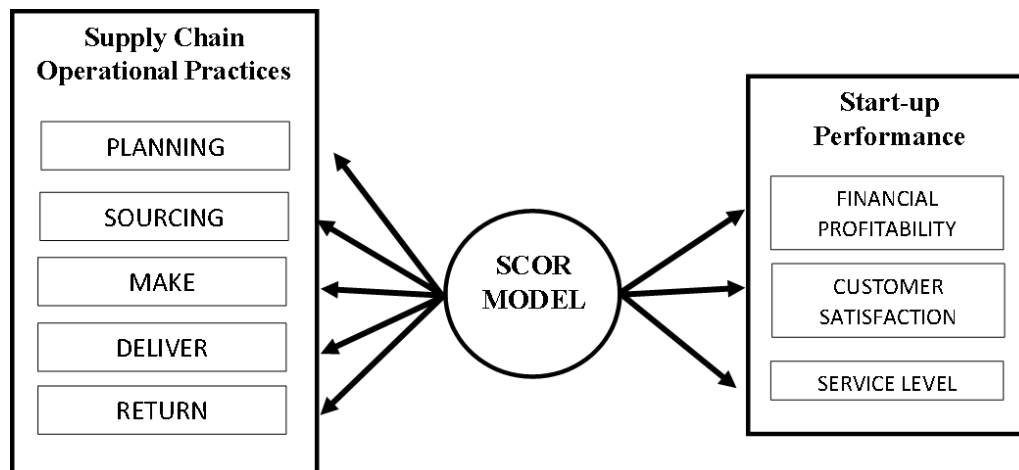
inadequacy of funds, technology, and infrastructure, lack of expertise and managerial skills, and teamwork. (Kazimoto, 2014).

Theoretical Background

Operational activities

Operational activities refer to the activities that are carried out by startups to promote effective management of their supply chain. (S. Li et al., 2005) According to the SCOR model, they comprise of some activities which include Plan, Source, Make, Deliver and Return. Effective supply chain practices enhance the performance of the organizations. (Amedofu et al., 2019).

Figure 1- Theoretical Framework



Plan. Planning is a crucial part of any business whether it is based on a small or large scale. In commencing a new venture, the entrepreneur must plan about how he is going to cater to the demand of their customers and managing its supply according to the demand of customers. They established their partnerships with their suppliers strategically according to the needs of its customer so that they can fulfill their orders on time effectively. (L. Li et al., 2011) Supply Chain planning uses the information that is available internally and externally to balance the demand and supply of their business. (Zhou et al., 2011) The previous research did not identify the importance of planning on small businesses performance.

Source. The sourcing process is a significant part of Supply chain Operations. It includes the ordering and receipt of raw material and semi-finished products and services from the suppliers. (Lockamy & McCormack, 2004) It includes supplier evaluation and selection, procurement plan and processes, and Supplier collaboration and practices. Small startups should carefully select their suppliers which helps them to reduce their cost and give good quality products so that their standard sustain according to their product positioning. Many

large-scale organizations have been established proper tools and software to select their suppliers and evaluate the performance of their suppliers which is lacking in the small startups, which may affect the performance of startups. (L. Li et al., 2011) It also includes inventory management practices, timely delivery of products or services, and expanding the supplier network to make their operational practices sustainable. The previous research did not identify the importance of sourcing on small businesses performance. The payment, verification, and movement of products are also important aspects of sourcing in Supply chain operational practices. (L. Li et al., 2011)

Make. Make process in Supply chain operations comprises of the making of product or services and hence an important part of the businesses. It involves tasks such as production, manufacturing, packaging of products, management of inflow and outflow of products (Roder & Tibken, 2006) Small startups have to put a lot of effort and make standardized products that cater to the needs of their products. In the Making phase, the major factors and components that are useful in gaining a competitive edge and quality performance in Supply chain is the Knowledge and skill that firm gain and the implementation of technology. (C. R. Matthews, 2006) The previous research did not identify the importance of making on small businesses performance.

Delivery. Delivery is also an important Supply chain operational activity. The planning, scheduling of delivery of products, warehouse management, movement of goods in the downstream supply chain, import and export compliances are the major activities that are performed in day-to-day operations of the business. (Lockamy & McCormack, 2004) The business is striving to deliver their products in their committed lead time and making their response time shorter and quicker. The fast response time (Just in time delivery) and quick delivery of quality products satisfy the customers and help the businesses to strengthen their customer base which will generate greater profits in the long run. (Amedofu et al., 2019) Previous research provides a gap in analyzing the effects of delivery on the performance of small startups.

Return. Return is the process of reversed logistic process in which products move from downstream to upstream in the supply chain process. It includes the processes and activities such as business return policies and processes, transportation. All the products that are returned by the consumer are taken back to the source of origin (Schulte, 2012) In the mishandling of product, the customer return the product to the company and the company is liable to compensate their customers to facilitate them and it helps in retaining the customer in the future. Every company is supposed to build a mechanism to make sure the effective return of

their defective or mishandled items. The return process quality is characterized by effective responsiveness and reliability (L. Li et al., 2011) The gap is also present about analyzing the importance of Return policies on the performance of small startups.

Startup Performance

Financial Performance. We've studied multiple kinds of research on startup businesses and operational performance that assists to identify which factors are important to focus on mainly because it helps to analyze financial performance (the earnings in operating statements) of the business and to examine where the business stand and how to increase the business profit in the future (Lange et al., 2007). In the present day's global health crisis, it challenging to interact face to face with a person (customers, manufacturer, and suppliers) for any organization or market which overlooks an obstacle to finance the business because of social distance. In contrast, many small entrepreneurs people start new businesses with innovative ideas, strategies, and supply chain operational practices to operate their business and to provide the customers high service level (Brown et al., 2020). The research did not identify the importance of small startups on the financial profitability of the businesses. In (Liu et al., 2020) research, he is indicating that there is a progressive effect on some firms who design their operation and used their knowledge, skill, and resources according to the crisis. In this study, we also examined that the critical situation of the world, the government administration takes certain steps to stable the economy and help the small or medium entrepreneurs to track their work and encouraged their financial performance. We additionally identify that we need to involve effective supply chain operations, promote high service quality, and connect with the customers, so it develops a high efficiency in financial working. In the (Yuliansyah et al., 2015) research, we did not only study financial performance but we also study non-financial performance, it creates a successful or top chain that helps an entrepreneur to communicate with manufacturers, dealers, and customers and reduced financial barriers which build a long-term achievement in business and improve operational performance. In the study, we evaluate the feedback of an individual and collect their responses by using technology because any business did not achieve their target without the contribution of an individual, it is played an important act to boost up the business.

Customer Satisfaction. We've studied past research that how important it is to satisfy the customers to run a business and every business's main or final goal is to retain the customer for the long run. (Zairi, 2000) It is challenging for every start-up business to satisfy its customers. In the research, we also identify some approaches to meet or achieved customer expectations and we also analyze that how much businesses concentrate on customers' needs

through their actions and practices. The practices, such that logistics to meet the customer demand, implement both sourcing for manufacture and deliver goods on time. In the recent study, we examine that many firms had faced difficulties to operate their business by the reason of pandemic, so that is why a lot of firms shift their business or search for an alternative to run the business. (Koltai et al., 2020) They also implementing operational practices to improve the performance of service levels and maintain their customers. (Wahid & Asiati, 2021) But the role of Supply chain operational activities in gaining and retaining customer satisfaction is not available in the present paper. It is also important that who is our customers and what they expect from us. In Covid-19, most of the buyers have preferred to online ordering the products and services. It was helpful for people who are conscious of their health. We also explore that the customers are highly satisfied with affecting supply chain operations because it makes it easier for customers to purchase their own choice, and deliver at their house's door. (Kaurin & Bošković, 2020) In the study, we also measure that, how much customers are committed and beneficial for business. Loyal customers in that way, if he or she is satisfied with the goods and services performance, then they will provide awareness to peoples or share their experience with others, from which will create more customer's attracted that is beneficial for startup business image. (Zairi, 2000)

Service Level. In the research, we also evaluate that in the startup performance it is important to provide a high service level and it is only possible when we design proper planning of supply chain operations. We also investigate the service level because it is associated with customer satisfaction, when businesses provide the latest information of goods and services to customers, the customers attract and also differentiate one product from another product (Zairi, 2000). In (Yin & Ma, 2015) research, we identified that how to increase the performance of supply chain operation by the quantity of product available and perfect quality to achieve the target, manufacturers fulfill the order to meet the customer demand. In this study, we also understand that when manufacturers achieve the target the dealers give rewards to the manufacturers for encouraged the performance of the high service level. But the SCOR (Plan, Make, Source, Deliver, Return) role in analyzing the service level needs to find out in further studies in the case of small businesses. The purpose of this study is to maintain the lead time and improving the quality of the product and define which factors are to reduce and enhance the startup performance of supply chain operation. This study is based on practices when we worked on this theory "Just in Time". In this approach, we deliver material when we start manufacturing the product that minimizes the financial cost and encouraged or delivers a high service level. (Constraint, 2019).

Hypotheses Development

Based on the above discussion and review of available related literature, following hypotheses are developed for this research.

H_{o1}: There is a significant relationship and impact of effective supply chain operational practices on the financial profitability of a startup.

Supply chain operational practices are revolving around activities from order receiving to order fulfillment. Firms need to monitor and take necessary actions in their supply chain operations on daily basis to make them effective. Awakenings and improvisations in the operational efficiency will increase the profitability (Soteriou & Zenios, 1999). If the firm is implementing an operative supply chain management strategy, it will increase the productivity level and helps in cost reduction. (Mogaka & Odari, 2018). Therefore, cost reduction will increase the profitability of the business. Based on these present findings, we can assume that there is a significant relationship between effective supply chain operational practices on the financial profitability of a startup.

H_{o2}: There is a significant relationship and impact of effective supply chain operational practices on the service level of a startup.

Service level and quality are termed as the difference between customers' perceptions and expectations. If the firm is committed to quality products and fast delivery system, then it will create expectations in the minds of customers to get their products delivered as soon as possible. On the other hand, the company is adopting an efficient delivery system in their operations which will increase their lead time and they are not able to deliver their products delivered. So, it will affect the service level of their company. (Hudson et al., 2004). Every company wants to keep their service level high to grow and expand their business in the long run and it is possible if they align their supply chain operational practices with their committed service level. Therefore, we can assume that Supply chain operational practices and service level are significantly related.

H_{o3}: There is a significant relationship and impact of effective supply chain operational practices on the customer satisfaction of a startup.

According to (Revels et al., n.d.), customer satisfaction is derived from customer's intentions. Based on this perception, we can analyze that satisfaction derives from the usefulness, ease of use, and comfort that is perceived by the customer. Another argument that is presented by (Oliver, 1999), the customer satisfaction is the outcome of the perceived judgment of the observed performance by the customer. So, most of the startups are declare successful or a failure by their growth and profitability. One of the factors for the high profits of startups is the

strong customer base. A strong customer base is established by the startups by satisfying their customers. Those startups experience low competition and gain high profits that satisfy their customers. (Nagengast et al., 2014) Customers have been recognized as a crucial source of revenue in the Supply chain. (Christopher, 2016) Based on these arguments, it has been hypothesized that Customer satisfaction and Supply chain operational practices are significantly related.

Research Methodology

Research Design

This investigation is quantitative research in nature. It will be carried out by gathering numerical data with the help of a questionnaire that is adopted from previous studies. The answers will be based on the Likert scale. The time horizon of this research paper is Cross-sectional. The research Philosophy that is adopted in this paper is Positivism (objectivity) as the data in the following paragraphs will make it visible that this paper fell under the category of positivism research philosophy. The Approach that is adopted in this paper is Deductive i.e., the results are collected from small businesses and the conclusion is drawn in general from those specific observations. This research is Explanatory research, and the purpose is to find the Cause-and-effect between the operational activities and startups' performance by making and testing the hypothesis. A sample is drawn and tested in which the hypothesis can be accepted or rejected. The techniques used to conduct this research is Survey based on a questionnaire and analyze its results by using SPSS software.

Population & Sampling

Our source of collecting data would be all the small startups that are conducting within Pakistan. The sample size of study is 50 respondents who are conducting startups within Pakistan. This study is fully quantitative, so it needs to describe the correct sample size and sample technique. Therefore, we have decided to go for the non-probability convenient sampling. Since the population framework (the list of all startups who are conducting startups in Pakistan) is not available at this stage and we are also unable to make that list due to a shortage of time and resources. All those businesses are eligible for the data collection who are operating small businesses mostly home-based and having a small setup/workshop, as this research is based on analyzing the effects of SC operational activities on small businesses. SPSS software is used to analyze the collected data. The analyzing tool that is used in SPSS Regression and Correlation Analysis etc.

Data Collection

Data is collected from small businesses/startups that are conducted within Pakistan. The questionnaire has been designed in Google forms and distributed in various virtual communities of small businesses for support purposes where people filled the forms. 55 responses have been collected of which 5 have been wasted due to invalid responses. Reliability testing has been done to make sure the reliability of the instrument.

Variables

The table below lists the independent and dependent variables used in this research model which are discussed in detail under the heading of theoretical model.

Independent Variable	Dependent Variable
SCOR (Operational Activities)	Startup Performance
1. Planning 2. Source 3. Make 4. Deliver 5. Return	1. Financial Profitability 2. Customer Satisfaction 3. Service Level

Measurement Items Development

The measurement instruments that have been used in the study to measure the constructs are sourced from previous literature that has been published in the same domain. The measurement constructs in Operational activities (Plan, Make, Source, Deliver and Return) have been adapted from (L. Li et al., 2011). The measurement constructs in Financial Performance, Customer Satisfaction, and Service Level have been adopted from (C. H. Matthews & Human, 2004), (S. Li et al., 2005) and (L. Li et al., 2011) respectively. After evaluating and selecting the measurement items from previous studies, the questionnaire is validated by our supervisor and distributed to people who are conducting small businesses within Pakistan to assess how they are carrying out their operational activities in their daily day-to-day operations and how it is impacting their startup performance.

For the measurement of items, Likert scales were used. For operational activities (Plan, Make, Source, Deliver and Return), respondents were required to use a Five-point -Likert Scale with 1 depicting “Strongly Disagree and 5 representing “Strongly Agree. The items in Startup Performance such as Financial Performance and Service Level, respondents were required to use Five-point Likert Scale with 1 depicting “Very High” and 5 representing “Very Low” to indicate the performance that they were achieving after implementing their operational

strategies, whereas the Customer Satisfaction, respondents were required to use a Five-point - Likert Scale with 1 depicting “Strongly Disagree and 5 representing “Strongly Agree.

Instrument Reliability and Internal Consistency

The measurement that is used in this paper to test the reliability of the construct variables is Cronbach alpha as it is widely used to measure the reliability of various items in a questionnaire which reflects the consistency of construct that we are measuring in the paper. (Field, 2009) The values of composite reliability Cronbach alpha is acceptable if it's more than 0.70. (Ab Hamid et al., 2017) The independent variable SCOR (Plan, Source, Make, Deliver, Return) has good internal consistency with the Cronbach alpha .888. the dependent variables Financial Performance, Customer Satisfaction, and Service Level have also good internal consistency with Cronbach alpha of 0.858, 0.747, and 0.757, respectively.

Cronbach's Alpha

Construct	Cronbach's α	N of items
SCOR	0.888	20
Financial Performance	0.858	4
Customer Satisfaction	0.747	4
Service Level	0.757	4
		32

Analysis and Results

Demographics

The study revealed that the male and female ratio who responded to the questionnaire is 46% Male and 54% Female. The percentage of peoples' age range who are initiating small businesses is mostly between 25-29 years. 18% percent of small businesses had been in operations for 1 and 2 years regarding the question about the age of Startup and the maximum percent of founders in small business is 2 i.e., 24%. 20% of small businesses are employing 1-4 employees regarding the number of employees hired by the small businesses. The data gathered from the small business have shown that most businesses are conducted in major cities such as Karachi, Lahore, Islamabad, etc. As per the type of industry, 30 percent of small businesses are associated with arts and crafts and 8 percent are associated with another niche. Only 1% are associated with IT and Financial support services. The detailed demographic data are already discussed earlier.

Descriptive Frequencies

		Gender	Age	Startup Name	Startup Age	Number of Founders	No. of Employees	Location of Startup	Industry Type
N	Valid	50	50	50	50	50	50	50	50
	Missing	0	0	0	0	0	0	0	0
Mean		1.54	2.12		2.10	1.86	1.92		
Median		2.00	2.00		2.00	2.00	2.00		
Mode		2	2		1 ^a	2	1		
Std. Deviation		.503	.940		1.093	.756	.944		
Variance		.253	.883		1.194	.572	.891		
Skewness		-.166	.367		.675	.536	.771		
Std. Error of Skewness		.337	.337		.337	.337	.337		
Kurtosis		-2.057	-.787		-.815	-.103	-.287		
Std. Error of Kurtosis		.662	.662		.662	.662	.662		

a. Multiple modes exist. The smallest value is shown

Gender

Gender	Frequency	Percent	Cumulative Percent
Male	23	46.0	46.0
Female	27	54.0	100.0
Total	50	100.0	

Age

Age	Frequency	Percent	Cumulative Percent
18-24	15	30.0	30.0
25-29	18	36.0	66.0
30-35	13	26.0	92.0
36 or older	4	8.0	100.0
Total	50	100.0	

Start-up Age

Startup Age	Frequency	Percent	Cumulative Percent
1 year	18	36.0	36.0
2 years	18	36.0	72.0
3 years	5	10.0	82.0
More than 3 years	9	18.0	100.0
Total	50	100.0	

Number of Co-founders

Number of co-founders	Frequency	Percent	CumulativePercent
1	17	34.0	34.0
2	24	48.0	82.0
3	8	16.0	98.0
More than 3	1	2.0	100.0
Total	50	100.0	

Number of Employees

Number of Employees	Frequency	Percent	Cumulative Percent
1-4	20	40.0	40.0
5-19	18	36.0	76.0
20-50	8	16.0	92.0
More than 50	4	8.0	100.0
Total	50	100.0	

Startup Location

Startup Location	Frequency	Percent	Cumulative Percent
Faisalabad, Punjab	1	2.0	2.0
Hyderabad, Sindh	4	8.0	10.0
Islamabad, Punjab	6	12.0	22.0
Karachi, Sindh	23	46.0	68.0
Lahore, Punjab	10	20.0	88.0
Multan, Punjab	1	2.0	90.0
Peshawar, KPK	2	4.0	94.0
Quetta, Baluchistan	1	2.0	96.0
Rawalpindi, Punjab	1	2.0	98.0
Sukkur, Punjab	1	2.0	100.0
Total	50	100.0	

Industry Type

Industry Type	Frequency	Percent	Cumulative Percent
Manufacturing	5	10.0	10.0
Other	8	16.0	26.0
Financing service	1	2.0	28.0
Health	3	6.0	34.0
Transportation	2	4.0	38.0
Education	2	4.0	42.0
Art, culture, and tourism	15	30.0	72.0
IT support service	1	2.0	74.0
Media	5	10.0	84.0
Retail	8	16.0	100.0
Total	50	100.0	

Model Measurement

The measurement model has analyzed by evaluating the Cronbach alpha α of the independent and dependent variables. (Hair et al., 2017) Cronbach alpha values have exceeded the 0.7 thresholds as recommended. (Hair et al., 2010) The SCOR model is established and well developed (Supply Chain Council, 1999). All the constructs are reliable to carry out the study as they exceed the threshold. The psychometric properties of all the constructs that have been used in the study are already shown and discussed.

Regression Analysis

SCOR and Financial Performance

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.219 ^a	.048	.028	.62197

a. Predictors: (Constant), SCOR

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.931	1	.931	2.408	.127 ^b
1 Residual	18.569	48	.387		
Total	19.500	49			

a, Dependent Variable: Financial Profitability b. Predictors: (Constant), SCOR

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.971	.733	.219	4.053	.000
	SCOR	.284	.183		1.552	.127

a. Dependent Variable: Financial Profitability

Model Summary. The value of R square is .048 which elaborates that SCOR (Plan, Make, Source, Deliver, Return) is explaining 0.48% variance in Financial Performance, which is very low.

ANOVA. The statistical significance is .127 which is greater than ($p < 0.05$) and indicates that the SCOR does not significantly relate to the dependent variable i.e., the Financial Performance of the startup.

Coefficients. It is observed that the beta value for SCOR (Plan, Make, Source, Deliver, Return) is .219 which is slightly lower and illustrating a weak association between the two variables and explained that SCOR is not making a significant contribution to the financial performance of the startup.

SCOR and Service Level

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.542 ^a	.294	.279	.51524

b. Predictors: (Constant), SCOR

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.294	1	5.294	19.941	.000 ^b
	Residual	12.743	48	.265		
	Total	18.036	49			

a. Dependent Variable: Service Level

b. Predictors: (Constant), SCOR

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1 (Constant)	1.363	.607		2.245	.029	
SCOR	.678	.152	.542	4.466	.000	

a. Dependent Variable: Service Level

Model Summary. The value of R square is .294 which elaborates that SCOR (Plan, Make, Source, Deliver, Return) is explaining 29.4% variance in Service Level, which is good as SCOR to improving the service level.

ANOVA. The statistical significance is .000 which is less than ($p < 0.05$) and indicates that the SCOR is significantly related to the dependent variable i.e., Service Level of the startup.

Coefficients. We can analyze that the beta value for SCOR (Plan, Make, Source, Deliver, Return) is .542 which is slightly higher and showing a strong association between the two variables. It also explained that it is making a significant contribution to the Service Level of the startups.

Summary of Regression Analysis

The summary of the regression analysis suggested that the first hypothesis was not significant as it does not support the positive relationship between SCOR (Plan, Make, Source, Deliver, Return) on the financial profitability of the startup ($\beta = .591$, $p = 0.00$ and $t = 5.081$). The second hypothesis was significant and supported that there is a positive impact of SCOR (Plan, Make, Source, Deliver, Return) on customer satisfaction of the startup. The final hypothesis was also significant and supported that there is a positive impact of SCOR (Plan, Make, Source, Deliver, Return) on the service level of the startup. ($\beta = .542$, $p = 0.00$ and $t = 4.466$). We also evaluated the effect size as per the guide of (Cohen, 1988) with 0.10, 0.30, and 0.50 for small, medium, and large effects and found that 0.21, 0.59, and 0.54 effect sizes have been calculated for financial performance, customer satisfaction, and service level of startup respectively. The effect size is low in financial performance, whereas the effect size is medium in Customer satisfaction and service level.

Correlation Analysis

Correlation Analysis (SCOR on Start-up Performance)					
		SCOR	Financial Performance	Customer Satisfaction	Service Level
	Pearson Correlation	1	.219	.591**	.542**
SCOR	Sig. (2-tailed)		.127	.000	.000
	N	50	50	50	50
	Pearson Correlation	.219	1	.252	-.001
Financial Performance	Sig. (2-tailed)	.127		.077	.993
	N	50	50	50	50
	Pearson Correlation	.591**	.252	1	.562**
Customer Satisfaction	Sig. (2-tailed)	.000	.077		.00
	N	50	50	50	50
	Pearson Correlation	.542**	-.001	.562**	1
Service Level	Sig. (2-tailed)	.000	.993	.000	
	N	50	50	50	50

From the above table, the relationship between SCOR on financial performance, customer satisfaction, and the service level was examined using the Pearson feature and a 2-tailed t-test. The relationship of SCOR with financial performance is not positively correlated as the p-value is greater than ($p < 0.05$). Whereas, the relationship of SCOR with customer satisfaction and service level is positively correlated. Values of Customer Satisfaction .591 and Service Level .542 with p-value is less than ($p < 0.05$) and it is positively increasing with the effective Supply chain operational activities i.e. SCOR (Plan, Make, Source, Deliver, Return).

The table below shows the correlation between each process of SCOR (Plan, Make, Source, Deliver and Return) with startup performance in terms of financial profitability, customer satisfaction, and service level. The SCOR and financial profitability are not correlated as we have observed the correlation between them, refer to the table showing Correlation Analysis (SCOR on Start-up Performance). But, when we analyze the correlation of each process on financial profitability, we have found that sourcing and financial profitability are positively correlated (.303). The reason behind this correlation is that the sourcing is mainly concern with the decisions regarding the processes that the business wanted to take insource or outsource. Selection of suppliers at affordable cost, insourcing the processes which help to reduce the cost are included in this process due to which they are positively correlated with the financial profitability.

Correlation Analysis

		Plan	Source	Make	Deliver	Return	Finance	Customer Satisfaction	Service Level
Plan	Pearson Correlation	1	.727**	.349*	.311*	.202	.231	.432**	.313*
	Sig. (2-tailed)		.000	.013	.028	.159	.107	.002	.027
	N	50	50	50	50	50	50	50	50
Source	Pearson Correlation	.727**	1	.603**	.363**	.167	.303*	.405**	.322*
	Sig. (2-tailed)	.000		.000	.010	.245	.033	.004	.023
	N	50	50	50	50	50	50	50	50
Make	Pearson Correlation	.349*	.603**	1	.531**	.424**	.085	.379**	.500**
	Sig. (2-tailed)	.013	.000		.000	.002	.556	.007	.000
	N	50	50	50	50	50	50	50	50
Deliver	Pearson Correlation	.311*	.363**	.531**	1	.490**	.169	.529**	.315*
	Sig. (2-tailed)	.028	.010	.000		.000	.242	.000	.026
	N	50	50	50	50	50	50	50	50
Return	Pearson Correlation	.202	.167	.424**	.490**	1	-.035	.444**	.571**
	Sig. (2-tailed)	.159	.245	.002	.000		.808	.001	.000
	N	50	50	50	50	50	50	50	50
Finance	Pearson Correlation	.231	.303*	.085	.169	-.035	1	.252	-.001
	Sig. (2-tailed)	.107	.033	.556	.242	.808		.077	.993
	N	50	50	50	50	50	50	50	50
Customer Satisfaction	Pearson Correlation	.432**	.405**	.379**	.529**	.444**	.252	1	.562**
	Sig. (2-tailed)	.002	.004	.007	.000	.001	.077		.000
	N	50	50	50	50	50	50	50	50
Service Level	Pearson Correlation	.313*	.322*	.500**	.315*	.571**	-.001	.562**	1
	Sig. (2-tailed)	.027	.023	.000	.026	.000	.993	.000	
	N	50	50	50	50	50	50	50	50

** . Correlation is significant at 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

Results and Finding

Hypothesis	Statement	T-Value	P-Value	Inference	Effect Size	Size
H1=	SCOR-Financial Probability	1.552	0.127	Not supported	0.21	Small
H2=	SCOR - Customer Satisfaction	5.081	0.000	Supported	0.59	Medium
H3=	SCOR - Service Level	4.466	0.000	Supported	0.54	Medium

These are the result of our findings:

1. The first hypothesis is rejected as the t-value (0.127) is greater than alpha (0.05) and the p- value (1.553) is less than 1.96.
2. The second hypothesis is accepted as the t-value (0.000) is less than alpha (0.05) and the p- value (5.081) is greater than 1.96.
3. The third hypothesis is accepted as the t-value (0.000) is less than alpha (0.05) and the p- value (4.466) is greater than 1.96.

Discussion and Conclusion

Based on the above findings and empirical evidence, two hypotheses have been accepted out of three hypotheses. The first hypothesis of our study elaborated and explained that there is not as such a significant relationship between the Operational activities of the startups on their financial performance according to the gathered data by the small startups. The operational factors of the startups such as planning, making, sourcing, delivery, and return are not contributing to increasing the profits of the business but rather decreasing raw materials cost, a higher quantity of goods production to achieve economies of scale would help to increase the profits and financial performance of the startup. (Dro, 2016) Only sourcing is correlated with financial profitability as it involves the decision regarding cost-cutting and cost reductions, and they played an important role in increasing the financial profitability of the business.

The second hypothesis of our study elaborate and explained that there is a significant relationship between Supply chain operational activities on the customer satisfaction of

small businesses. Planning helps the business in the supply chain to make sure the availability of demanded products of their target market. After effective planning, making, and sourcing of demanded products will help the businesses to capture the market share by attracting customers. (Heikkilä, 2002) Customer satisfaction will increase if they get the demanded product from that business. Timely and quick delivery of quality products with proper and safe packaging will also help to satisfy the customers. If the business is implementing effective return policies to facilitate the customers in returning of wanted and defective items and products, it would satisfy the customers in their purchasing and would prefer that business again.

The final hypothesis of our study elaborated and explained the significant relationship between Supply chain operational activities on the service level of small businesses/startups. Service level would improve and increased if the business decreases its lead time with the help of effective and timely delivery of products to the customers. The demand chain can be efficiently improved by decreasing the delays in the time lag involved in the information flow and raw material throughout the supply chain. (Heikkilä, 2002) This would improve the service level of the business. Operations can be accelerated by decreasing the demand distortions and manipulation and align the production quantity and schedules with the demand to improve the performance. When the performance improves with this alignment, it will help to improve the service level of the small businesses. (Holmström, 1995)

The positive effect of SCOR (Plan, Make, Source, Deliver, Return) on small business performance on Customer Satisfaction and Service Level proposed that effective implementation of Supply Chain operational activities can help the small businesses to increase their service level and customer satisfaction and expand their business in the future. Whereas the implementation of Supply Chain operational activities does not propose the better financial performance of startups. But the hypothesis can also be reanalyzed by making a larger sample size to reevaluate the impact of Supply chain operational activities on startup performance. Finally, to start a small business, an individual should develop and prepare a well-written policy in their supply chain operational activities to effectively sustain their service level and satisfy the customers. It is recommended that emerging entrepreneurs and startup owners should get trained in SCOR (Plan, Make, Source, Deliver, Return) so that they can develop a solid Supply Chain Operational plan and easily implement these strategies as they have a positive impact on its customer base and startup performance. The complex network and structures of the Supply Chain are difficult to implement in the initial stages of the startups but the basic guidelines and

policies by keeping in view the SCOR model would help the businesses to implement it in their day-to-day operations.

The concept of businesses has been evolving especially with the increase in globalization and technological innovations. The trend of starting small businesses and startup have been increasing especially in the Covid-19 times, where people have been downsized by the large corporations who are suffering from huge losses due to trade restrictions. (Brown et al., 2020) Small businesses already must face a lot of challenges due to little investment, small infrastructure, and less competitiveness in the market. (Tushabomwe-Kazooba, 2006) This research paper explored the impact and effects of supply chain operational activities regarding the SCOR model on startup performance in terms of financial profitability, customer satisfaction, and service level. (Amedofu et al., 2019) Data has been gathered from 50 startups that have been in operations throughout Pakistan. The analysis has been done by using the SPSS software and obtained regression and correlation analysis. According to the findings, SCOR does not have a direct and positive relation to the financial performance of the startup, but they do have a significant and positive on customer satisfaction and service level. This research would help the small business owners to analyze and reevaluate their operational practices and implement them in their day-to-day operations as they have an important impact on the service level and customer satisfaction of the startup. The improved service level and satisfaction of customers help the businesses to build their competitiveness in the market and expand their businesses further in the long run.

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