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Investigating logistics issues in service quality of SMEs in Saudi Arabia

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ABSTRACT

This research aimed to evaluate the effect of improvement in the logistic issues on the service quality (SQ) dimensions of SMEs operating in Saudi Arabia. The investigation followed a quantitative assessment where SEM modelling was used on primary data collected using a survey questionnaire. The sample comprised of 351 employees belonging to different industries and different cities of Saudi Arabia, Jeddah, Khobar, Dammam, and Riyadh. The research identified quality logistics personnel, inventory management, and high technology cost as critical issues in Saudi SMEs. In this research, three SQ dimensions were considered, including assurance, reliability, and responsiveness. The results inferred that the overall effect of improvement in logistic issues was significant on the SQ dimensions. However, the study was limited to Saudi SMEs and three aspects of topics and three dimensions of SQ only. Considering this, the findings of the study have both practical and theoretical implications for SMEs, academicians, and practitioners.

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1. Introduction

In the contemporary business world, the logistics are regarded as the differentiator which is built on the competencies of the organisation to fulfill the customer needs and create the competitive advantage of the firm (AlGhamdi et al., 2013; Ab Talib et al., 2013; Juga et al., 2010; Altayyar & Beaumont-Kerridge, 2016). With the increase in competitive pressures has placed an increased dependence on effective deliverance of customer-adapted products on time, where the logistics have been focused as a primary area of investigation. The freight and logistics market of Saudi Arabia is estimated to be valued at a total of USD 22.95 billion and is predicted to likely grow by CAGR of 7.35% (PRNewswire, 2019). Moreover, the freight and logistics industry of Saudi Arabia is dynamic and large, which is strongly supported by state-led investments in airport, road, maritime, and rail infrastructures. Additionally, spontaneous urbanisation, economic growth, and population maturation are the main driving factors that the Saudi government should invest in for the massive expansion in the logistics (Reuters, 2019). The energy Minister of Saudi Arabia announced in the year 2019 that the country is raising USD 427 billion pertaining to the private sector investments, which can also include a rough amount of USD 36 billion for the logistics development (PRNewswire, 2019). The investment has been utilised for the development of Saudi Arabia as a gateway for trade supply chains of Asia, Europe, and Africa. Saudi Arabia is consecrated with the biggest seaport network in the Middle East, which is comprised of 9 crucial ports with 200 piers, which have the capacity of handling 90% of the country trade. According to the report of Reuters (2019), it has been highlighted that Saudi Arabia has launched a new logistics zone which will be open for the investors in the Red Sea port for the city of Jeddah having an ultimate purpose of diversifying the economy from job creation and oil extraction for Saudis. The Al Khomra Zone is said to be providing supporting activities revolving around freight distribution, shipping, and transportation of goods, which extends over 2.3 million square meters in Jeddah. Since the Vision 2030 of Saudi Arabia is focused on replacing the exports of oil and related products with the

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shipping of different products, this will require a substantial increase in the logistical and seaport infrastructures for the exports (Logistics Middle East, 2011; Alotaibi, 2013; PRNewswire, 2019). Such investments by the Saudi government will serve as an excellent opportunity for the SME sector; however, they will require business support and active leadership behaviours.

Logistics plays a significant role in the national economic development of a country, especially for the middle-eastern countries like Saudi Arabia (AlGhamdi et al., 2013; Sohail, 2006; Ab Talib et al., 2013). With such an active development in the logistics sector of the country, there can be particular challenges and issues about the service quality with the specific case of the SME sector of the country. The study conducted by Kilibarda, Nikolicic, and Andrejic (2016), reflects that the logistics have proved to perform a strategic role for both large enterprises and SMEs. The challenges of logistics and effective maintenance of the service quality are based on ineffective inventory management, lack of personnel available for handling logistics activities of an organisation, and high cost of information technology (Vu, Grant & Menachof, 2019). These can influence the service quality of the SME sectors in terms of responsiveness, reliability, and assurance. According to the report of Logistics Middle East (2011), it has also been highlighted that the logistics industry of Saudi Arabia might face significant challenges in terms of labour and lack of infrastructure along with illogical reasoning, which the country has to deal with. The major problem is associated with employing staff having adequate expertise, knowledge, and experience of handling logistics activities (Sohail & Al-Abdali, 2005). The report further highlights that if the SMEs or large enterprises employ local workers, then they can face the difficulty of training as obviously, it requires a prospect of training, which is a time-taking procedure. On the other hand, a similar problem can be associated with the employment of foreign staff, where the current government policy supports the hiring of only local staff, which will likely affect the service quality of the SMEs (Gélinas & Bigras, 2004; Takele, & Buvik, 2019). Considering the discussion above, the study mainly aims to investigate the challenges of logistics deeply concerning the effective maintenance of service quality in the SME sector of Saudi Arabia. The study has been carried out by taking questionnaire surveys from SMEs, which are located in the main cities of Saudi Arabia. The study aims to achieve the following objectives,

To evaluate the significance of logistics sector of Saudi Arabia

To investigate logistic issues in service quality of SMEs in Saudi Arabia

To recommend effective measures for improving service quality through resolving logistics in the SME sector of Saudi Arabia.

The research question which has been set of this research paper is as,

Q. How the logistics issues are influencing the service quality of the SME sector of Saudi Arabia?

This research paper will first discuss the literature review, which will cover the areas are logistics strategies, challenges of logistics, and service quality factors of SMEs. After the literature review, a brief section of methodology will be discussed that specifies the modalities implemented in carrying out this study. The methodology section will then be leading with the results and discussion section where the findings from the questionnaires will be presented.

2. Literature Review

2.1 Overview of SMEs in Saudi Arabia

The SME sector is considered as the backbone of Saudi Arabia as it helps the country in job and wealth creation and further contributes to the diversity and growth of the economy. As per the report of the World Bank (2020), it has been highlighted that the SMEs mainly contributes to 60% of the total unemployment with 40% to the GDP of emerging economies. In the present situation, the SME sector accounts for 90% for all the inter-related businesses in KSA, where this sector provides distinctive opportunities to enhance productivity along with the diversification of the economy.

Enterprise Category	Current Definition of SMEs in Saudi Arabia	
	No. of Employees	Annual Revenue
Micro	1-2	Less than USD 27,000
Small	3-49	USD 27,000-1.3 million
Medium	50-200	USD 1.3- 13.3 million

Source: SIDF

Fig. 1. SMEs in Saudi Arabia
Source: Jeddah Chamber (2016)

In light of the report of Jeddah Chamber (2016), the SME contribution for gross domestic product (GDP) is estimated at 33%, which is relatively higher than in other Gulf countries. With the increased significance of SMEs in KSA, the government official as King Salman Bin Abdulaziz has been keen on taking initiatives for the active development and promotion of SMEs. In addition to the above statement, the financial initiatives which are taken by the government are

aimed towards supporting SMEs in terms of social and fiscal variables, which are intended on an imperative role of SMEs for developing and stimulating economies.

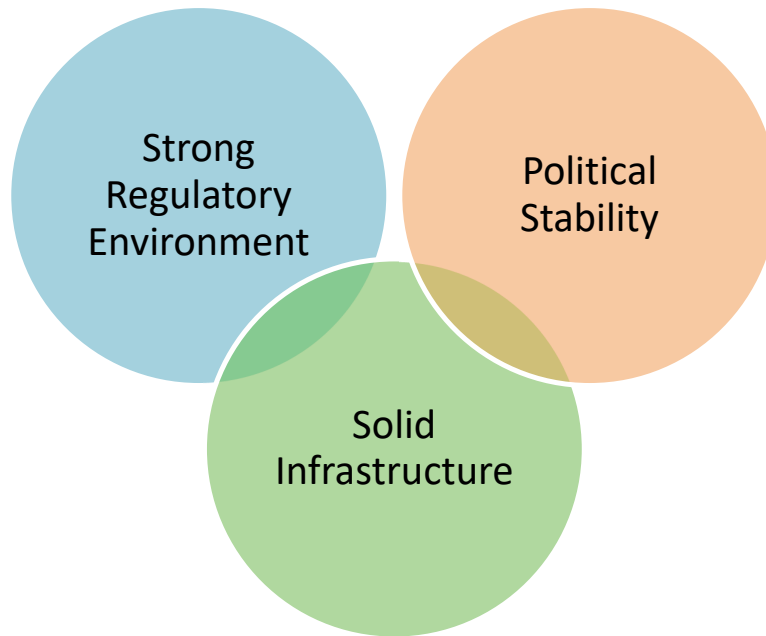


Fig. 2. Key SME Enablers in Saudi Arabia

Source: Jeddah Chamber (2016)

As stated above, the SMEs are comprehended as the backbone for a sustainable and prosperous economy (Takele & Buvik, 2019). Moreover, the roots are found to be local, and however, with the increased trade activities and globalisation, the SMEs are provided with equal opportunities for exploiting it effectively. SMEs in KSA has a strong position, which is because the economic strategy needs to be diversifying away from the oil sector. That could be the reason that SMEs mainly constitutes almost 90% for the registered business that is intended to create employment opportunities for the people.

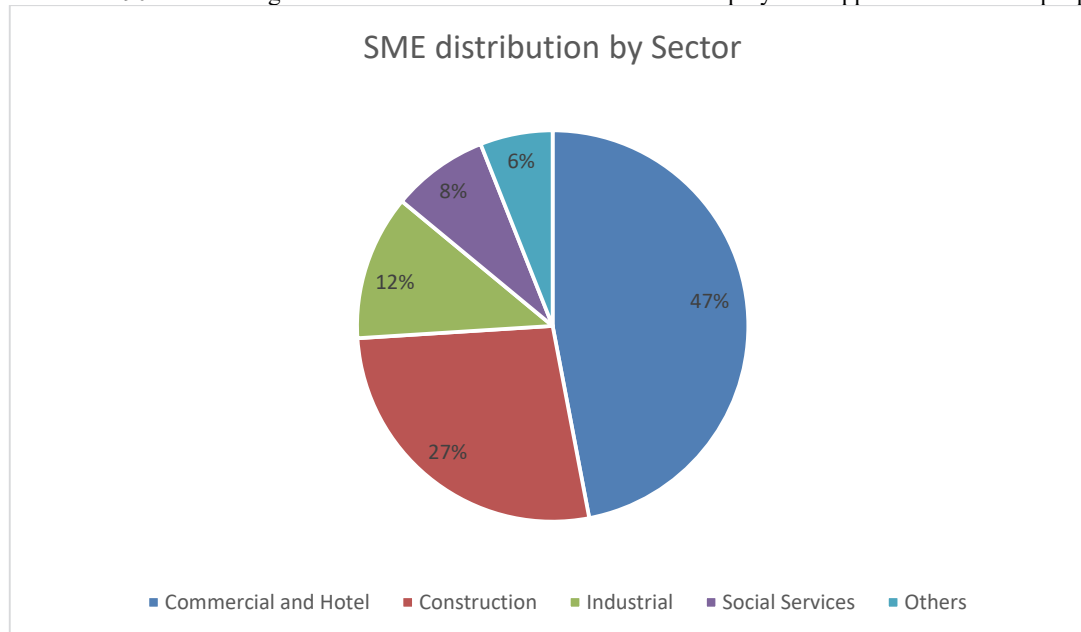


Fig. 3. SME Distribution by Sector

Source: Jeddah Chamber (2016)

2.2 Importance of Effective Logistics Management at SMEs

The logistics are regarded as the backbone of any organisation, which is based on effective management of the logistics function encompassing a congregation of various disciplines including handling, transportation, procurement, information systems, and material planning (Ab Talib et al., 2013). The concept and importance of logistics management can also be

perceived as the process of implementing and planning the overall flow of products and services and other necessary related information which are required for the delivery and production of those products and services. According to AlGhamdi et al. (2013), the effectiveness of the logistics can be reviewed from the influences on the operational and financial market. Several authors have suggested that the efficiency in the logistics is considered as the cornerstone of the competitive strategy which can help the company in keeping pace with the increased market share, maximising shareholders wealth and market structure changes (Sohail & Al-Abdali, 2005; Juga et al., 2010; Vu, Grant & Menachof, 2019). Technically, the effectiveness of logistics is associated with the strategy, which helps in keeping pace with the market changes, integration of supply chain, and changes in the competitive landscape. Besides, the effectiveness also helps the companies to become more responsive and flexible for coping up with the internal and external environment changes that eventually help the SMEs to operate efficiently in the industry. However, the drive for cost reductions and efficiency has forced a number of organisations to improve the logistics strategies so as to enhance the service quality of the organisation.

2.3 Logistics Issues at SMEs

SMEs are facing a number of challenges with the pressures associated with the direct and indirect competitors, the requirement of functioning independently, operational problems, and shortage of resources (Ab Talib et al., 2013; Stekelorum, Laguir & Elbaz, 2020). In addition, considerable problems are associated with inventory management and the capacity of the organisation. For instance, SMEs face immense challenges and difficulties in the performance because of having complex supply chain integration. In addition to the challenges, the strategy of building an effective supply chain chiefly relies on the pressure triggered by the customers or the large enterprises where the main focus is built on the pull approach instead of push approach. As a consequence, it is necessary for the SMEs to broaden their vision for the logistics chain in order to refocus on the activities based on the necessary skills. In this context, there is a dire need for increased resources and skills for the implementation of logistics strategies and mitigate the challenges to compete effectively in the market. Another challenge faced by the logistics sector is the lack of personnel and skills, which is a deep-rooted problem in Saudi Arabia. In light of the study conducted by Hamisi (2011), personnel experience and skills are quite essential for practicing logistics effectively for the organisations and meeting the needs and expectations of the customers. In addition to the above statement, the inventory management is also a recurring challenge faced by the SMEs because the companies are unable to identify the potential demand and supply of the products and services and are also incapable of producing reliable quality which is of high standards.

2.4 Logistics Service Quality

In the previous times of mid-1980s, the service quality has been prioritised by different organisations in both logistics and marketing as it is running parallel with the quality management and its related parameters within an organisation (Kilibarda et al., 2016; Sohn, J. I., Woo & Kim, 2017; Harrigan, Ramsey & Ibbotson, 2009). The research carried out by Takele and Buvik (2019), identified that for enhancing customer satisfaction, it is necessary that the service quality of the logistics should be enhanced. Considering these lines, research which was carried out in Spain by author Sila and Ebrahimpour (2002) highlighted that the quality is of superior value when considering physical distribution activities of the business as it has a considerable influence on the satisfaction levels of the customers. Moreover, the concept of LSQ (logistics service quality) is researched and studied from two different perspectives, which are subjective and objective quality. In addition, the first approach is mainly associated with the quality of adapting the services which are provided by the company within precise specifications (Alotaibi, 2013). The second approach mainly transfers the evaluation of the quality towards the customers that are generally regarded as the subjective quality. Considering this perspective, the service quality is regarded as the “global judgement for the attitudes which are concerned with the superior quality of the service.” Moreover, within the sphere of logistics service, a distinguished contribution has been made by Moh'd Anwer (2018), which focused on the development of identifying the objectives of the variables, which can be measured through the perception of the customers in consideration of their expectations. In addition, the service quality is measured through factors like reliability, assurance, and responsiveness as they are directly influencing the logistics of the organisation.

In light of the study conducted by Fosso Wamba *et al.*, (2016), the reliability of the products and services plays an essential role in evaluating the value provided to the customers. Moreover, the reliability of the products and services are performed for the promised services accurately and dependably. According to the research of Gandhi, Sachdeva, and Gupta (2018), it has been highlighted that the company mainly delivers the promises about the delivery of services with appropriate resolution of the problem along with the pricing. It is a known fact that the customers want business with only those companies that keep their promises and delivers quality products and services (Hoq & Chauhan, 2011; Khan, Awan & Ho, 2014; Kilibarda et al., 2016). Moreover, for the adequate logistics service quality, it is necessary the products and services which are offered to the customers are reliable, and in this essence, the reliability helps the company in improving the service quality. In addition, the reliability helps the company to emphasise on the promptness and attentiveness in dealing with the complaints and customer queries. The responsiveness is often communicated to the customers by the length of time as they have to wait for the assistance to get the answers and queries resolved. In addition, responsiveness has significantly focused on the notion of providing reliable and flexible services to the customers' needs and wants. Moreover, the responsiveness also focuses on the notion of the ability and flexibility for the purpose of customising the services in

accordance with the needs of customers. In light of the study conducted by Alzoubi and Yanamandra (2020), there is another factor that constitutes service quality for the logistics, i.e., assurance, which implies to inspire confidence and trust. It is explained as the ability of the firm and the knowledge of courtesy of the employees for inspiring the confidence and trust from the perspective of customers. This dimension is likely to be important for the company because it involves high rising and the feel of uncertainties for the evaluation.

2.5 Logistics Issues in Service Quality

According to the study conducted by Hye *et al.*, (2020), there has been significant importance of logistics on the service quality of the SMEs because it helps in bringing the productive relationship with the customers and further assist the company in the revenue generation. Moreover, it mainly determines the profit creation for the purpose of satisfying the needs and wants of the customers and further assists in enhancing the competitive advantage for the company. The improvised logistics service quality helps the company to focus on the products and benefits so that their satisfaction with the company can be enhanced. According to the study conducted by Lundahl, Vegholm, and Silver (2009), it has been highlighted that the customers focused on high-quality services, which can only be possible with the improved logistics services as it helps the company in merging the gap between suppliers and producers. In light of the study conducted by Stekelorum, Laguir, and Elbaz (2020), it has been highlighted that the logistics planning is significant for the companies because it either makes or breaks the relationship with the company. Logistics and the service quality have remarkably emerged as the primary source for the competitive advantage for SMEs in Saudi Arabia with a specific focus on the improvement and transportation deregulation that enabled the companies to gain a sustainable competitive advantage with enhanced responsiveness, assurance, and reliability.

2.6 Conceptual Framework

In light of the literature review, the conceptual framework has been designed in this section. The key logistic issues that require intensive care in the case of SMEs of Saudi Arabia have been considered. Therefore, the core logistic issues that have been used in this research for improvement purposes are the high cost of information and technology, quality logistics personnel, and inventory management. All they mentioned vital issues have been as independent constructs in the measurement model whilst assessment. However, there are various dimensions of SQ, but this research is focusing on the most prominent ones, which are prominent in the case of SMEs operating in Saudi Arabia. In this concern, reliability, responsiveness, and assurance have been considered as the dependent constructs. According to the description of the model, the model has been illustrated in Fig. 4:

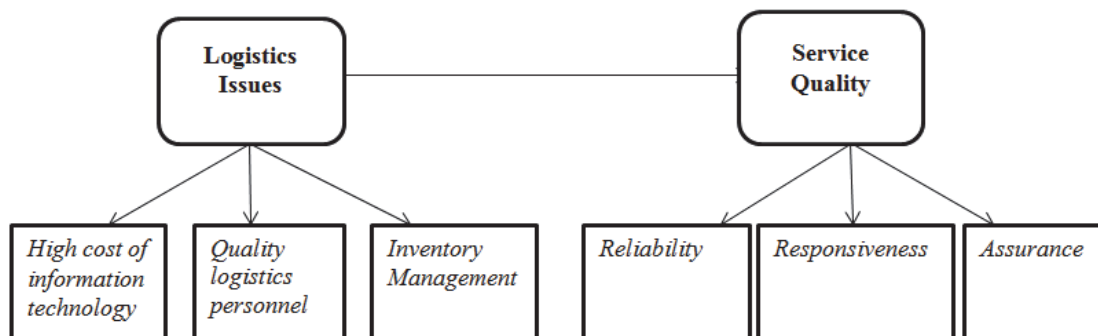


Fig. 4. Conceptual Framework of the Research

With respect to the constructed hypothesised framework, the following propositions have been made to be tested empirically in this research paper:

- H₁: High information technology cost affects the service quality of Saudi Arabian SMEs significantly.
- H₂: Quality logistics personnel affects the service quality of Saudi Arabian SMEs significantly.
- H₃: Inventory Management affects the service quality of Saudi Arabian SMEs significantly.

3. Methodology

3.1 Data and Sample of the Study

The study is based on quantitative assessment; therefore, primary data has been collected from the concerned respondents with the help of a survey questionnaire. Therefore, the instrument utilised in this study was a close-ended survey questionnaire employed for the accumulation of primary data. The recommended sample size is more than 200 to deem the results of statistical analysis reliable (Rosenthal & Rosenthal, 2011). In this concern, the researcher initially developed a questionnaire based on close-ended questions. The questions had options ranging from strongly agree to strongly disagree

(5 to 1). Therefore, a five-point scale was considered in this research, which was then coded for empirical analysis. Prior to the final data collection, the researcher conducted pilot testing on 30 participants, and some of the redundant factors were omitted, and in this manner, the final questionnaire was articulated. The instrument was initially tested for its reliability during the pilot assessment, and this resulted in a total of 6 variables with 3 indicators each of the independent constructs, while each dependent construct had 4 indicators. The reliability of the research instrument possesses significant importance (Kumar, 2019; Saris & Gallhofer, 2014). Subsequent to the finalisation of the questionnaire, the sample size was determined using the mainstream formula, which is referenced from the study (Ahn, Heo & Zhang, 2014; Ryan, 2013). The sample size has been computed as follows:

$$n = \frac{z^2 \times p \times q}{e^2} = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384$$

The confidence interval is taken to be 95% in this study, and the relative value of the z-score is 1.96. Also, 'p' is referred to as the population proportion assumed to be undertaken in the study, and 'q' is the remaining proportion. Both have been taken to be 0.5 as inserted in the formula while 'e' is the error terminology, and it is taken to be 5%. Provided this, the sample is computed to be 384; therefore, the author approached 390 participants. The reason for approaching more participants was associated with the high probability of a sufficient response rate. The sampling strategy in this concern is followed to be purposive sampling, which is a non-probability sampling technique, as stated by the study of Daniel (2011). The mentioned sampling technique is used because the purpose of the study is associated with logistic issues, and those employees working in Saudi SMEs have been targeted who have been associated with logistics anyhow. The questionnaire was distributed both online and physically, where everyone was briefed on the research purpose and were convinced. The concerns regarding privacy, confidentiality, and anonymity were also resolved. The research of Quinlan et al., (2019) asserted that for primary data collection, ethical considerations should be taken care of specifically. Initially, the questionnaires which were administered physically took 20 minutes approximately whilst the ones sent online had an explanatory note with it. In the explanatory note, the purpose of the research, its significance, and all the aspects necessary to convince the respondents were present and elaborated appropriately. Therefore, no questionnaire was filled without the consent of the respondents; they were given due leverage to withdraw from participating in the research anytime. Considering this, a total of 359 responses were received; however, 8 of them were incomplete and were deemed ineligible to be a part of the research. Therefore, the final sample was 351 participants, and the response rate on these basis have been computed to be 90%. Moreover, participants of the study mostly belonged to Jeddah, Khobar, Dammam, and Riyadh. In addition, the distribution of the sample has been further enlightened as a diverse sample on the basis of industry/ sector, as follows in Table 1:

Table 1
Distribution of the Research Participants

Industry/ Sector	No. of Respondents	% of Respondents
Retail	46	13%
Pharmaceutical	71	20%
Construction	37	11%
Hotel and Restaurants	56	16%
Food and Beverages	68	19%
Utility	60	17%
Others	13	4%
Total	351	100%

3.2 Data Analysis Technique

The data accumulated with the help of the survey has been analysed using Structural Equation Modelling (SEM). In accordance with the research conducted by Hair et al., (2016), PLS-SEM is significant in producing robust results in exploratory studies and the studies where the data is found to be non-normal. In addition, SEM incorporates both factor analysis and regression, and in this aspect, Confirmatory Factor Analysis (CFA) and structural path have been analysed. Some of the critical aspects of CFA include discriminant validity (HTMT ratio), convergent validity (AVE), composite reliability, and Cronbach Alpha. The quality of the model has been evaluated using R-squared and adjusted R-squared. The analysis has been conducted on SmartPLS, which is widely used for PLS-SEM.

4. Results

4.1 Demographic Analysis of the Participants

The total sample of the study comprised of 351 participants, where 56% were males, and 44% were females. In the context of the age of the participants, 34% were aged between 25 to 30 years, 24% were 31 to 36 years, 19% were 37 to 42 years, 15% were 18 to 24 years, and 8% were 43 years and above. The results of demographic profiling have been depicted in Table 2.

Table 2
Demographic Profiling

Demographic Variable	Category	No. of Respondents	% of Respondents
Gender	Male	196	56%
	Female	155	44%
Age	18- 24 years	53	15%
	25-30 years	121	34%
	31-36 years	83	24%
	37-42 years	65	19%
	43 years and above	29	8%

4.2 Confirmatory Factor Analysis (CFA)

The factor structure of the latent constructs has been confirmed using CFA analysis. The factor loadings of the indicators should be ≥ 0.6 as prescribed by the research of Latan and Noonan (2017). The results in Table 3 imply that all the outer loadings are fulfilling the set criterion. The reliability is examined using Cronbach Alpha along with composite reliability and the study conducted by Vinzi et al., (2010) asserted that the reliability statistics should be > 0.6 . The results are inferring that all the latent variables considered in the study are reliable. The Cronbach Alpha statistics of assurance, high technology cost, inventory management, operating logistics personnel, reliability, and responsiveness are 0.877, 0.753, 0.707, 0.791, 0.712, and 0.897, respectively. In addition, the composite reliability statistics are computed to be 0.916, 0.860, 0.833, 0.872, 0.804, and 0.928 of assurance, high technology cost, inventory management, operating logistics personnel, reliability, and responsiveness respectively. The association of latent constructs is tested with AVE, and the threshold is considered to be ≥ 0.5 (Avkiran & Ringle, 2018; Kreinovich et al., 2018). In accordance with the results in Table 3, the minimum AVE is computed to be 0.510. In this manner, the constructs are fulfilling the prescribed criterion.

Table 3
Convergent Validity and Reliability Assessment

Variables	Indicators	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Assurance	A1	0.786***	0.877	0.916	0.732
	A2	0.875***			
	A3	0.905***			
	A4	0.852***			
High Technology Cost	HIT1	0.797***	0.753	0.860	0.673
	HIT2	0.923***			
	HIT3	0.730***			
Inventory Management	IM1	0.832***	0.707	0.833	0.626
	IM2	0.849***			
	IM3	0.682***			
Quality Logistics Personnel	QLP1	0.677***	0.791	0.872	0.699
	QLP2	0.897***			
	QLP3	0.913***			
Reliability	Rel1	0.751***	0.712	0.804	0.510
	Rel2	0.821***			
	Rel3	0.613***			
	Rel4	0.653***			
Responsiveness	Resp1	0.884***	0.897	0.928	0.763
	Resp2	0.879***			
	Resp3	0.869***			
	Resp4	0.860***			

In addition to reliability and convergent validity, the discriminant validity is also examined with the HTMT ratio. The study of Dwivedi et al. (2019) asserted that the maximum value illustrating similarity should be 0.9. The results depicted in Table 4 are evidently showing that all the variables are distinct because the highest value is computed to be 0.831. Therefore, path assessment can be conducted appropriately.

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Table 4
Discriminant Validity of the Latent Constructs using HTMT Ratio

	Assurance	High Technology Cost	Inventory Management	Quality Logistics Personnel	Reliability
High Technology Cost	0.395				
Inventory Management	0.645	0.664			
Quality Logistics Personnel	0.471	0.738	0.831		
Reliability	0.378	0.511	0.457	0.610	
Responsiveness	0.594	0.306	0.459	0.374	0.292

4.3 Path Analysis

In path assessment, the direct effect of high technology cost is found to be significant on the reliability, and it is positive as well ($B = 0.211$; $p\text{-value} = 0.000 < 0.01$). The effect of inventory management on the assurance as a SQ dimension is also

computed to be positively significant ($B = 0.409$; $p\text{-value} = 0.000 < 0.01$). In addition, the effect of inventory management on responsive is also significant and positive ($B = 0.242$; $p\text{-value} = 0.002 < 0.01$). Besides, another aspect of new product development, which is quality logistics personnel, was found to be a problem in logistics, and improving this can lead to enhancement in the SQ in all considered aspects. The inference has been drawn on the basis of statistics where the effect of quality logistics personnel is computed to be significant on assurance ($B = 0.141$; $p\text{-value} = 0.025 < 0.05$), reliability ($B = 0.405$; $p\text{-value} = 0.000 < 0.01$), and responsiveness ($B = 0.158$; $p\text{-value} = 0.000 < 0.01$). Overall, the results depicted in Table 5 infer that improving the logistics issues considering SMEs in Saudi Arabia, the cumulative service quality can be enhanced in terms of assurance, reliability, and responsiveness.

Table 5
Path Analysis

Path	Path Coefficients	T Statistics	P Values
High Technology Cost → Assurance	0.057	0.860	0.390
High Technology Cost → Reliability	0.211***	3.717	0.000
High Technology Cost → Responsiveness	0.057	0.932	0.352
Inventory Management → Assurance	0.409***	6.111	0.000
Inventory Management → Reliability	0.002	0.037	0.970
Inventory Management → Responsiveness	0.242***	3.139	0.002
Quality Logistics Personnel → Assurance	0.141**	2.254	0.025
Quality Logistics Personnel → Reliability	0.405***	6.654	0.000
Quality Logistics Personnel → Responsiveness	0.158**	2.311	0.021

***: significant at 1%; **: significant at 5%

4.4 Model's Quality Assessment

The research model comprised of three dependent variables; therefore, the quality of the model has been assessed in three dimensions, as depicted in Table 6. The variance in high technology cost, inventory management, and quality logistics personnel is explaining 30% variance in assurance, 30% variance in reliability, and 16% variance in responsiveness. Comparatively, the model with reliability as the dependent variable is better than the rest of the models based on adjusted R-squared, which is 30%, as shown in Table 6. The models with assurance and responsiveness as dependent variables have 29% and 15% of adjusted R-squared.

Table 6
Quality Assessment of SEM Model

	R Square	R Square Adjusted
Assurance	30%	29%
Reliability	30%	30%
Responsiveness	16%	15%

4.5 Summary of the Proposed Hypotheses

The summary of the hypotheses concerning each dependent and independent construct can be seen as follows in Table 7. The only hypothesis which is completely accepted is associated with quality logistics personnel, while others are partially accepted. The reason for partial acceptance is also mentioned in terms of the dependent variable in the Table for better comprehension.

Table 7
Summary of the Hypotheses

Statement	Dependent Variable	Results
H ₁ : High information technology cost affects the service quality of Saudi Arabian SMEs significantly.	Significant with reliability	Partially Significant (Accepted)
H ₂ : Quality logistics personnel affects the service quality of Saudi Arabian SMEs significantly.	Significant with all	Significant (Accepted)
H ₃ : Inventory Management affects the service quality of Saudi Arabian SMEs significantly.	Significant with assurance and responsiveness	Partially Significant (Accepted)

5. Discussion

The main interest of this research is focused on assessing how the logistics issues influence the service quality of the SMEs in Saudi Arabia. For this purpose, the research phenomenon was assessed through surveying more than 200 SME managers or owners for getting the desired results. In this context, the researcher has developed a close-ended questionnaire based on a 5-point Likert scale. For the data collection, the sampling strategy followed for this research is purposive sampling, which is a non-probability sampling technique, and the data gathered with the help of surveys from the SMEs have been analysed using SEM. From the findings of the research, it was identified that a significant relationship exists between the variables which have been undertaken for this study to assess the association between dependent and the independent variable.

In addition to the above statement, the variables, which include the high cost of information technology, inventory management, and quality personnel, significantly influence the service quality of the SMEs. Moreover, from the results, it can also be interpreted that the inventory management was identified to have a partial influence on the service quality in the SMEs. Moreover, the technological advancements and high cost of information technology were identified as the most challenging situation for the SMEs in terms of managing the service quality. Consistent with the results inferred in this research, the findings of Kilibarda et al., (2016), has presented the same results which highlighted that SMEs should ensure their success with the adoption of the information and technology in order to improvise and rejuvenate their services which need to be in line with the customer services, requirements, and their desires. In the study findings, the lack of personnel which is the most crucial thing for enabling service quality at the SMEs was identified to be the second most important challenge as it is mainly acknowledged that Saudi Arabia has shortage of skilled labour as mostly the residents of Saudi Arabia are not adequately skilled, and the expatriates are not given appropriate opportunity to reflect their skills in the decision making processes (Alotaibi, 2013). Therefore, the identified factors mainly compel the SMEs to upgrade their service quality by enhancing the logistics services in order to ensure quality services provided to the customers.

6. Theoretical and Practical Significance of the Study

The findings of the study significantly contributed towards the practical and theoretical grounds, which can be helpful for the SMEs in Saudi Arabia. From the theoretical perspectives, the research has discussed different factors and concepts pertaining to the SQ and Logistics, which are necessary for SMEs in Saudi Arabia. As far the practical significance is concerned, the following research will be significant for the SMEs in Saudi Arabia as it will guide them about improving the service quality by focusing on reliability, responsiveness, and assurance through enhancing the high cost of information, improving quality personnel and managing the inventory of the company effectively. By allowing the opportunity to the expatriates, the SMEs can capitalise on their skills and abilities due to the fact that the unemployment in the country prevails. In this context, the SMEs will be effectively managing the logistics issues by improving the quality circles of their services.

7. Limitations and Future Research Directions

The research was limited to the geographical bounds of Saudi Arabia, and therefore, in the future, the researchers can opt for any other country for the research. For instance, other Arab countries can be considered as Qatar or UAE. Besides, this research was limited to the quantitative assessment, and therefore, researches in the future can underpin either qualitative assessment or mixed methodology to evaluate the case of logistic issues and service quality. Moreover, a limited number of SQ dimensions have been undertaken in this research, while the number of issues considered for improvement in terms of logistics is also few. Considering this, future researches can be evidently enhanced with the inclusion of additional SQ dimensions and other logistic issues. Provided this, another aspect which can be deemed as limitation of this research is its scope, which encompassed SMEs only whereas, in the case of multinational corporations (MNCs) or organisations, the logistic issues can be more intensive and severe and might require extensive research. Consequently, future researches can be based on MNCs as well operating within Saudi Arabia, whilst a comparative study can also be carried out between Arab countries, which can ultimately help in understanding the dynamics in a better manner.

8. Conclusion

The purpose of this research was to identify the logistics issues which can influence the quality of the service for SMEs in Saudi Arabia. The findings of the study provided extensive evidence towards the SMEs owners' perception and managers regarding the challenges which are faced by them in managing the quality of the services. Considering this statement, the following study also acknowledges that it has a dominating influence on the three challenges which are identified in this research as high technology cost, lack of personnel, and inefficient inventory management. However, a partial impact was identified between the management of inventory and the service quality, which are experienced by the SMEs of Saudi Arabia. Based on the findings, it has been recommended that the SMEs should focus on seeking financial assistance from the government initiatives and fill the skills gap by hiring more expatriates all over the world who have a vast knowledge regarding the management of service quality.

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Appendices

Appendix A: Questionnaire

Name:

Gender

- Male
- Female

Age

- 18- 24 years
- 25-30 years

31-36 years

37-42 years

43 years and above

Please rate your responses by ✓ the value that you think is more appropriate:

<i>Strongly Agree</i>	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
5	4	3	2	1
Questions				
LOGISTICS ISSUES				
<i>High cost of information technology</i>				
Competent logistics requires high cost of information technology.				
Investments in IT does not necessarily guarantee the increase of enterprise performance				
IT costly investments improve process effectiveness and service standards of logistics.				
<i>Quality logistics personnel</i>				
Inadequate experience of handling shipments.				
Inadequate education regarding logistics and shipments.				
Scarcity of Qualified Staff at SMEs in Saudi Arabia				
<i>Inventory Management</i>				
Inability to manage inventory as per the capacity of SMEs				
Holding of excess inventory in order to meet high demands				
Overwhelming variations in inventory as triggered by the unpredictability of market demand.				
SERVICE QUALITY				
<i>Reliability</i>				
Requested services or products are available				
Issued invoices are accurate				
Product Information is reliable.				
Product quality is reliable				
<i>Responsiveness</i>				
Customer service representatives are helpful				
There are customized services for customers' requests				
The customer service representatives are helpful in emergency situations				
Customer's services representatives provide good response on queries.				
<i>Assurance</i>				
SMEs assure to provide good logistics services				
Provision of on-going information and status of shipment				
Provision of tracking facility of the shipment.				
Assurance of refund in case any catastrophe from company's end				

**Appendix B:
Research Models**

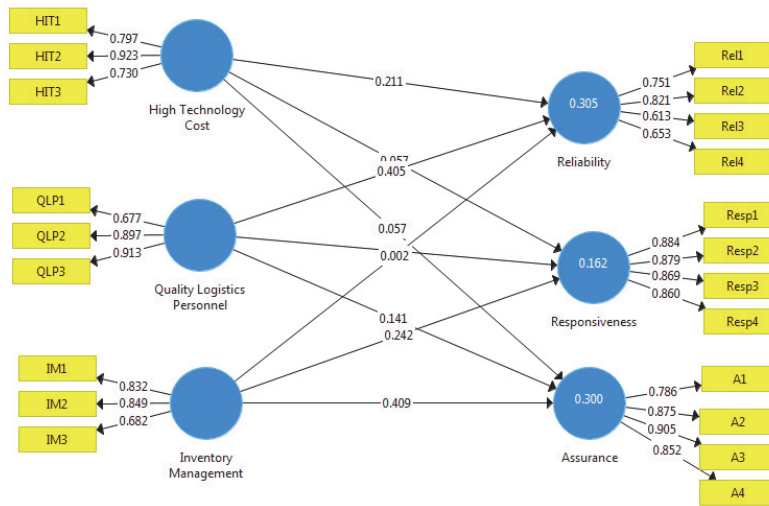


Fig. 5. Initial Measurement Model

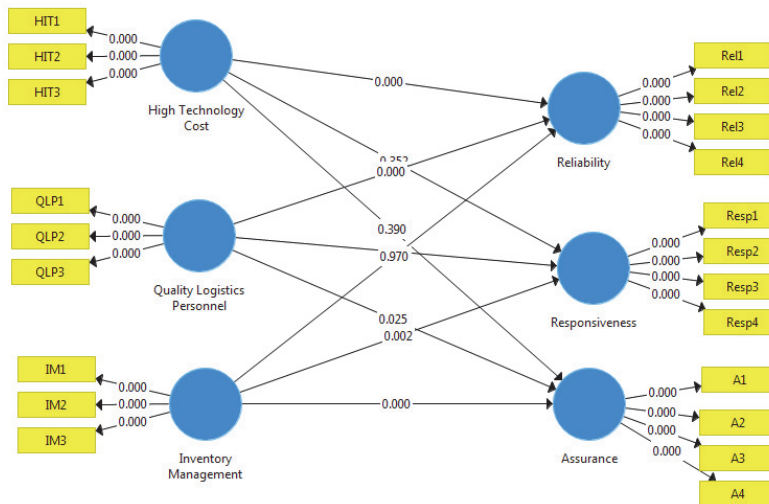


Fig. 6. Model after Bootstrapping



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