An Empirical Analysis of Small Enterprise Development Strategies and Supply Chain Performance in Telecommunications

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ABSTRACT

An empirical examination of the relationship between strategies for small enterprises and supply chain performance in the telecommunication industry is offered in this research. The study attempts to investigate the impact of different strategic orientations, distribution strategy, distinctive product strategy and information services strategy on supply chain performance and the mediating effect of strategy selection criteria. Data was obtained from a written questionnaire survey conducted among the employees of a telecommunications company in Basra-Iraq. SPSS and SEM (Structural Equation Modelling) with AMOS were used to test the hypotheses. The results of the empirical investigation reveal that the scope for small enterprise development has a strong and positive effect on supply chain performance. In particular, both distribution strategies and information services strategies have greater impact than unique product strategies. The findings also confirm that the criteria used to select strategies, in particular effectiveness and cost, mediate significantly with respect to performance improvement in the supply chain. The results of model fit indices support the stability of the proposed framework. The paper adds to the literature by presenting empirical evidence in a developing-economy setting and provides pragmatic implications for telecommunication managers. If appropriate development strategies are employed based on a good selection factors, small-scale business would be able to improve supply chain performance and its general effectiveness.

Keywords: Small enterprise development strategies; Supply chain performance; Strategy selection criteria; Telecommunications; Structural equation modeling

1. Introduction

Small and Medium-sized enterprises (SMEs) are recognised today as the key engine of economic growth, job creation and service innovation in many developing economies (Chong & Kaliappen, 2025; O'Reilly et al., 2025). Recently, increasing competition, dramatic technological advancement and changing customer service requirements forced smaller companies to apply more rationalizing strategies for development in order to ensure their evolution as well as quality of services (Radicic & Petković, 2023; Kallmuenzer et al., 2025). In this backdrop, the supply chain performance has been viewed as an essential capability to allow organisations to react for demand variability, lower cost of operations and provide products and services with high reliability and timeliness (Richey et al., 2022).

Performance of the supply Chain in telecom is not just confined to physical logistics as it also involves seamless information flow, servicing delivery and inventory availability and responsiveness to customers needs on front side (Obisesan et al., 2022; Richey et al., 2022; Yun et al., 2023). Telecommunications companies operate in fluid markets where strategic choices must constantly be linked with operational results. For small telecom firms, the choice of a suitable development approach may be a matter of life or death and subsequent business and competitive success in particular under resource scarcity of their access to phone network resources (GSM, UMTS/CDMA networks) or the market (Abdullahi & Muriuki, 2024; Altaleb et al., 2024).

Against this background, the study also plays a part to investigate empirically on the impact of small business development strategy on supply chain performance in telecommunications as well as studying the mediating effect of strategy selection criteria. Questions answered in the study include: (i) Can small enterprise development strategies lead to meaningful improvements in supply chain performance in telecommunications sectors? (ii) To what extent these strategies affect organizational decision-making to select a strategy? and (iii) Are strategy selection criteria influencing on the supply chain performance improvement?

The contributions of this paper are as follows. First, it creates a systematic context of development strategies and their selection and performance in the specific context of a telecommunications supply chain. Second, it provides empirical evidence based on questionnaire data and SEM analysis by testing direct and indirect effects. Third, it has practical implications for the managers of small communications manufacturing companies that they can recognize those strategic orientations and selection criteria with superior ability to reinforce the enhancing effects on supply chain performance.

The remainder of this paper is organized as follows. Section two presents the theoretical background and hypothesis development. Section three describes the research methodology and measurement model. Section four reports the empirical results and hypothesis testing. Section five discusses the findings and managerial implications. Finally, Section six concludes the paper and outlines future research directions.

2. Theoretical Background and Hypothesis Development

The section below outlines some theories to explain the relationship between small firm development strategies, factors used in selecting a strategy and supply chain performance in the telecommunications industry. Based on strategic management and supply chain research, this section presents the theoretical arguments and hypotheses of our investigation.

2.1 Small Enterprise Development Strategies

Business strategies for small businesses Business growth strategies are patterned directional courses of action (or inaction) organizations can undertake to achieve growth, stability and/or competitive advantage under conditions of resource scarcity, as shown in Figure 1. Such strategies are even more relevant in the telecommunications industry because of dynamic technological progress, fierce competition and higher customer expectations. Previous research shows that the performance of small firms is largely contingent on their capability to bridge strategy with operations, particularly in supply chain.
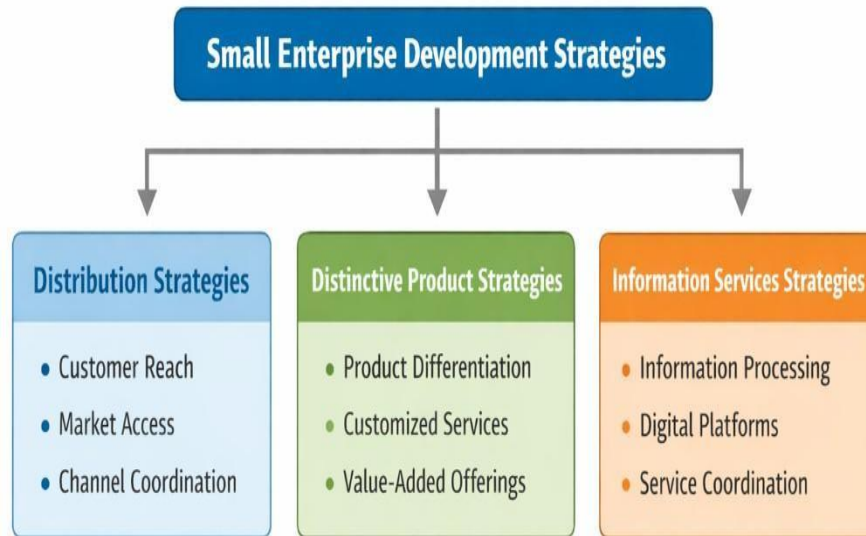
Figure.1 Dimensions of small enterprise development strategies in the telecommunications sector

•Distribution Strategies: Market access and customer relationship (responsiveness, order fulfillment) take center stage among the distribution strategies. For telecommunication companies, optimized distribution strategies lead to lower servicenavailability, reduced delivery time and improved coordination among suppliers, service providers and end users. Through designing the distribution network and nlogistic process, small-and-medium-sized enterprises (SMEs) can enhance their response capability and eliminate waste from operations, to improve the performance of the supply chain accordingly.

•Distinctive Product Strategies: Differentiated product strategies seek to differentiate products and services from those of competitors by offering a unique or distinctive value relative tonthe customer's circumstances. In the field of telecommunications, this could include tailored service bundles, value-added services or clever infrastructures. While product differentiation could be appealing to some niche segments, it may need advanced competencies and have highncosts and knowledge demand that in the context of small businesses can become a barrier. Accordingly, the influence of unique product strategies on supply chain performance can differ based on firm resources and marketplace circumstances.

•Information Services Strategies: Information services approach strategies with the focus on applying IT, databases and web tools to assist in decision-making and services provisioning. Telecommunications nonindependent on timely and accurate flows of information in order to coordinate with their supply chain partners as well as manage customer data and react quickly to changes in the market. By meansnof information services, greater visibility, coherence and coordination can be done through the supply chain, increasing effectiveness and performance.

2.2 Strategy Selection Criteria

Choice of the appropriate development path requires identification and assessment of strategic alternatives in terms consistent with corporate objectives and constraints, as shown in Figure 2. Criteria for selection of strategic options help decision-makers to take decisions which are possible, have impact and fit in with organizational prerequisites.

Figure. 2 Dimensions of strategy selection criteria used in the study

Effectiveness: By definition, the effectiveness of a strategy is how well it allows an organization to accomplish its purpose. Effective strategies in small telecommunication organizations enhance service quality, customer satisfaction and performance. Very effective practices are expected to improve supply chain performance more (Khan, 2024; Richey et al., 2022).

Cost: Cost is one of the important factors for choosing a strategy, especially in small organizations that have low budgets. It is generally desirable to have schemes that reduce the operational and implementation costs while not falling significantly below acceptable performance levels. Sustainable practices are not only less expensive, but also more waste-conscious and resource-friendly towards the supply chain (Chinta, 2022).

Objectivity: Objectivity reflects the extent to which choice decisions are made on the basis of rational analysis and not on individual bias or personal preferences. Objective decision-making leads to improved trust within the organisation, and helps ensuring that strategically-oriented choices have indeed been made in the best interest of the company—and thus will promote more healthy and efficient supply chain operations (Ngo et al., 2024).

Satisfaction: Satisfaction is considered as the degree of acceptance by internal staff members and users. Satisfaction, a behavioral measure, helps to motivate those who should be committed to the effective implementation of a strategy that in turn has an influence on supply chain performance (Ahmad et al., 2024).

2.3 Supply Chain Performance in Telecommunications

The performance of supply chains in the telecommunication industry indicates how well firms can manage and co-ordinate services, information and operative resources flowing from upstream suppliers to end customers. As a post-industrial supply chain and different from manufacturing factories, telecommunication supply chains are service-based, information-rich, and time- critical. In order to obtain a structured overview, the performance of a supply chain within the telecommunications industry can be outlined using the following major steps:

1. Service Planning and Resource Provisioning includes predicting customer demand, planning capacity and allocating sufficient resources to maintain service continuity, reduce congestion and ensure timely delivery (Shi et al., 2024; Bamdadsoofi et al., 2024).

2. Information Flow and Coordination require accurate and real-time information exchanges among supply chain members, which reduce uncertainty and enhance decision-making speed (Yenugula et al., 2023).

3. Service Delivery and Responsiveness relate to execution activities such as installation, maintenance and customer support, where rapid response is a key indicator of efficiency (Obisesan et al., 2022).

4. Monitoring, Feedback, and Control ensure detection of deviations, diagnosis of issues and continuous improvement through feedback mechanisms (Khan, 2024).

5. Cost Efficiency and Reliability balance service quality with cost management to strengthen competitive position and customer satisfaction (Abdelati & Abdelwali, 2024).

Taken all together, these steps show how supply chain performance can be achieved with telecommunications by combining planning, information management, service delivery and performance management. Optimising each stage will enhance overall operational efficiency and facilitate the strategic direction of small telecommunications companies.

2.4 Hypothesis Development

Building on theoretical descriptions from the previous sub-sections, we now present the hypotheses to be tested in an empirical framework as related to the relationships between strategies for developing small businesses, criteria for choosing a strategy, and supply chain performance in the telecommunications industry. These hypotheses address both direct and indirect effects, relating the strategic behavior to operational performance in smes.

Small business growth strategies create the organizational blueprint that shapes how a company operates. In the telecommunications industry, distribution efficiency strategies and product differentiation as well as information services integration are believed to bring about greater co ordination flexibility and dependability in the supply chain. According to previous strategic management and supply chain literature, development strategies are beneficial to a supply chain by enhancing planning, information flow, and service delivery. Therefore, the following hypotheses are formulated:

•H1: SME Development strategies have a significant and positive impact on the supply chain performance in telecommunication.

The implementation of growth strategies also impacts on how institutions assess and choose between different strategic alternatives. Criteria for strategy choices such as effectiveness, cost, objectivity, and satisfaction serve as interpretation lenses through which strategic decisions are made. When development options are explicit and consistent with the goals of the organization, they offer an organized foundation for evaluating strategic alternatives and consequently enhance the applicability and use of selection criteria. This brings us to the second hypothesis:

•H2: Small business development strategies have positive effect on strategy selection criteria.

Reducing the gap between strategic intent and operational performance Strategy selection criteria will play a key role in transforming strategic intent into operational implementation. In small telco firms, those strategies that prove to be efficient and cost effective are the ones more likely to succeed at the implementation stage while the coordination between firm entities is improved, inefficiency decreased, supply chain results optimized. Hence we propose that strategy selection criteria are likely to play direct positive role on supply chain performance and it results in hypothesis three as:

•H3: Selection criteria of strategy, influence positively and significantly supply chain performance.

Collectively, these propositions coalesce into an integrated framework that simultaneously considers the direct influence of small-enterprise development strategies on supply chain performance and its indirect effect through strategic selection criteria. This structure underlies the empirical examination in later sections.

3. Methodology

The research methodology employed to empirically test the links between small enterprise development strategies, selection criteria for strategy, and supply chain performance in the telecommunication industry is presented below. The method section describes the research design, study setting and population, data collection, measurement of variables attained in this study, as well as analytic methods used.

3.1 Research Design and Approach

The article uses a quantitative research design under the cross-sectional method to examine empirically whether and how small enterprise development strategies, as well as strategy selection criteria, are related to supply chain performance in telecommunications. Quantitative design is suitable for this study because it allows measurement of latent constructs and testing statistically the power of the theoretically based hypotheses with empirical data.

This research is explanatory in nature, as it seeks to establish cause-effect relationships among strategic variables rather than serving pure description of organisations behaviour. In order to reach this goal, the most important way of data collection was structured questionnaire survey. The use of survey technique provides opportunity to collect data in planned and structured manner from different respondents, making comparability and statistical generalization within the study setting possible.

As the principal analysis method, structural equation modeling (SEM) was chosen in order to test measurement model and structural relationship among constructs simultaneously. SEM is well suited to this analysis because it can model multiple dependent variables, estimate latent constructs using multiple indicators and analyze both direct and indirect effects in a single analytical package.

The structure of the research is based on 2-staged analysing. We conduct the measurement model in two stage to test the reliability and validity of constructs. The second stage is to determine the appropriateness of the structure model, to test hypotheses and evaluate overall conceptual framework fit. This method ensures better credibility of the empirical analyses and allows for valid inference about the relationships we are studying.

3.2 Study Context and Sample

The empirical enquiry took place in the telecommunications industry, concerning a Basra-based Small Firm. So as to allow for study context and sample selection process clarification, this is, itself, described per:

• Industry Context Selection: The telecommunications industry was chosen in virtue of its strategic significance, the service-intensive characteristics and the importance for efficient supply chain coordination. SMEs in this industry experience a high level of competitive intensity, fast rate of technology development and rising customer demands, hence they represent a suitable greenhouse for investigating managerial strategy making and SC performance.

• Organizational Context: A small telecoms company from Basra has been selected to serve as the case organization. It is active in the provision of services and distribution within the local market, hence portray a typical small enterprise in a developing economy setting.

• Target Population Identification: The study sample comprised employees that were employed at administrative, operational and service function in the company under selection. Such staff was perceived fit as respondents since they were directly involved in the implementation of strategies and supply chain decorrelated activities. • Sampling Technique: Purposive (or judgmental) sampling was used to select the respondents who had greatest understanding of the organisational development strategies and operations. In this way, the quality of the information collected was improved.

• Sample Size Determination: An appropriate sample size was calculated based on a generated statistical formula for the satisfactory representation and reliability of results. Only questionnaires that were filled in completely were included in the final dataset on which analysis was performed.

• Ethical Considerations: The participation to the survey was voluntary and respondents were told about the scholarly purpose of the research. To minimize response bias and promote genuine participation, assurance of confidentiality was given to respondents and the questionnaire remained anonymous.

Together, these procedures establish the research context and the sampling framework for empirical research and thus enhance confidence in determinations of study quality.

3.3 Data Collection Procedure

Data were gathered systematically and in a controlled way for the purpose of accuracy, reliability, validity. The process was carried out as following:

• Questionnaire Development: A structured questionnaire was designed using validated measurements reported in previous literature in the areas of small enterprise development strategies, supply chain strategy selection criteria and supply chain performance. The iles were modified to suit the telecommunication environment and checked for clarity and relevance.

• Pre-testing and Refinement: The questionnaire was pre-tested with a small group of workers to evaluate item clarity, wording and time to complete. The pre-test feedback was used to tailor the instrument by removing ambiguous or redundant items.

• Survey Administration: The developed questionnaire was administered directly to the employees in the chosen telecommunication firm. A self-administered survey was used to give the participants time to think about and answer questions with considerations.

• Response Collection: The questionnaires were retrieved within an established time lapse. We employed follow-up reminders to enhance the response rate and guarantee a sufficient sample size for statistical analysis.

• Data Screening: The returned questionnaires were checked for completeness and consistency. Incomplete or inconsistent answers were discarded in order to ensure good data quality.

• Ethical Assurance: Respondents were told participation was voluntary and that their answers would be used for academic purposes only. The guarantee of anonymity and confidentiality was made to minimize social desirability bias while improving the honesty of responses.

This process of structured data collection helped by making sure the dataset was trustworthy and it could be further analyzed statistically and structurally.

3.4 Measurement of Variables

The scales used to measure variables in this study are generally validated scales that have been slightly modified according to specific context of telecommunication, as shown in Figure 3. All constructs were operationalized with multiple indicators to avoid spurious constructs. Participants replied on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).
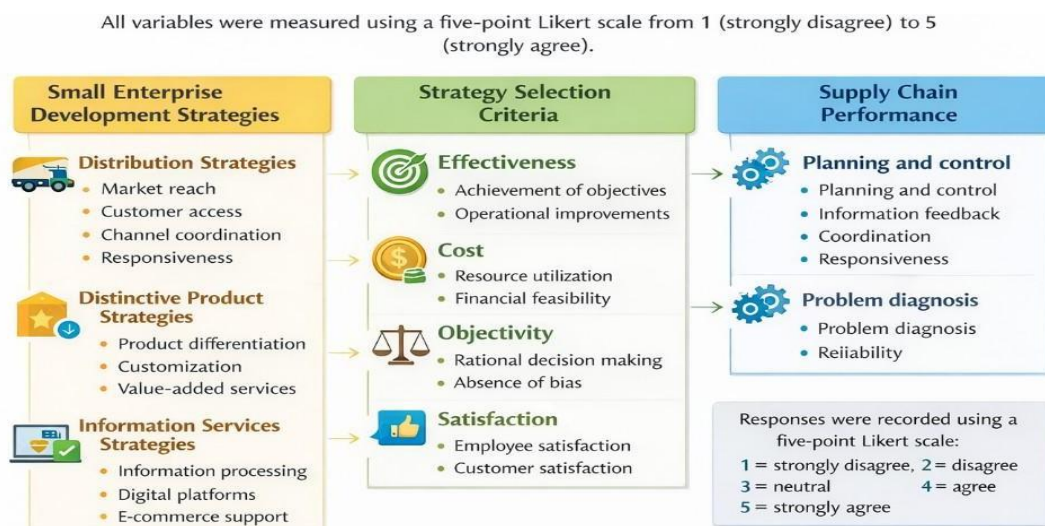

Figure. 3 Measurement of study variables and their dimensions

3.4.1 Small Enterprise Development Strategies

Small business development strategies The small enterprise development strategies was a multidimensional construct which included three dimensions of strategy: • Distribution Strategies: Evaluated by market coverage, customer coverage, coordination of distribution channels and responsiveness to the needs of customers.

•Distinctive Product Strategies: Measured by the items of product differentiation, customization, value-added service, meeting customers' requirements.

•Information Services Strategies: It was measured by indicators that enabled information processing, digital platforms use, e-commerce support and service organization through information systems.

3.4.2 Strategy Selection Criteria

Criteria in selecting strategies Criteria for the selection of strategies were defined based on four dimensions that are consistent with managerial logic: • Effectiveness: The items assessing the degree to which strategies help in attaining the goals of an organization, and improving operating results.

•Cost: Assessed by cost effectiveness resource utilization and financial viability of strategy.

•Objectivity: Evaluated by the indicative of rationality, equity an unbiased in selecting strategies.

•Satisfaction: The degree to which the chosen strategies and how they were implemented satisfied employees' and consumers' is recorded in terms of employee and customer satisfaction with selected strategies.

3.4.3 Supply Chain Performance

Supply chain performance was assessed based on a number of dimensions representing the operational and service results in the telecommunication sector. These were: effective planning and control, information feedback and coordination, service responsiveness, problem diagnosis, reliability. These elements taken together demonstrate the organization's ability to provide effective, reliable service that meets customer expectations.

The adoption of multi-item measurement scales improves the reliability and validity of the constructs, and enables strong empirical analysis in the next sections.

3.5 Reliability and Validity Assessment

The reliability and validity of measurement model was examined before examining the structural relationships to uphold soundness and stability of the constructs used in survey. Internal consistency and confirmatory factor analysis were used in the conventional method.

•Reliability Analysis: Internal consistency reliability was tested by Cronbach's alpha and Composite Reliability (CR) coefficients. A value of Cronbach's alpha greater than 0.70 was seen as acceptable and CR above 0.70 prove the stability and reliability regarding measuring items. All alarm items in the study satisfied the proposed thresholds in all cases (providing further evidence of internal consistency).

•Convergent Validity: Standardized factor loadings, AVE and Composite Reliability values were used to evaluate convergent validity. Factor loadings greater than 0.50 further standardization indicates that the indicators are a reasonable measure of each construct. AVE ¿ 0.50 indicates that a construct accounts for more than half of the variance in its indicators. The findings demonstrate that all the constructs have good convergent validity.

•Discriminant Validity: The Fornell-Larcker criterion was used to assess discriminant validity by comparing the square root of the AVE for each construct with its correlations with other constructs. Discriminant validities are achieved when the square roots of AVEs are higher than cross-loadings. The results support the empirical distinctiveness of constructs.

•Model Fit Assessment: The chi-square test was used to test the overall fit of the measurement model, with RMSEA (root mean square error of approximation), CFI (comparative fit index), GFI (goodness-of-fit index) and IFI (incremental fix index). The resulting scores fell below the widely accepted criteria (RMSEA 0.90), allowing for an acceptable fit between measurement model and observed data.

Taken together, the reliability and validity tests indicate that the measurement model is sound enough to conduct further structural model analysis and testing of hypotheses.

3.6 Data Analysis Techniques

In the present study, a combination of statistical and structural modeling techniques were used to analyze the data in that the hypothesis testing was strict enough and interpretations of results can be defended, as shown in Figure 4. Analysis was conducted in the following order:
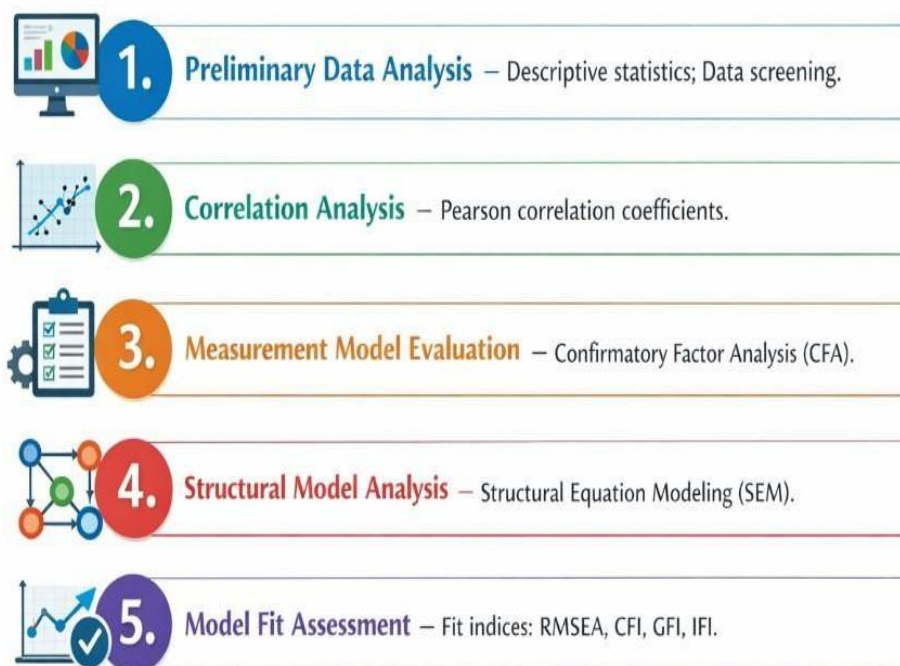

Figure. 4 Data analysis process using SPSS and Structural Equation Modeling (SEM)

•Preliminary Data Analysis: The entered data was initially imported into SPSS computer program. We calculated descriptive statistics (mean and standard deviation) to describe respondent characteristics and gain a preliminary insight on the study variables. Data also were screened for missing values, outliers, and normality to confirm that they were appropriate for further analysis.

•Correlation Analysis: Pearson's r correlation coefficients were used to determine association between study variables. This step was an attempt to elucidate likely causal relationships in advance of structural modelling.

•Measurement Model Evaluation: For the measurement model, we conducted the Confirmatory Factor Analysis (CFA) with AMOS program. This test established the reliability and concurrent validity of the constructs through factor loading, construct reliability, and goodness-of-fit measurement.

•Structural Model Analysis: This study used SEM to examine the relationship between small enterprise development strategies, strategy selection criteria and supply chain performance. In addition, path coefficients, critical ratios and significance levels were assessed to see how well the hypothesis postulated got a statistical support.

•Model Fit Assessment: The good fit of the structural model was examined using RMSEA, CFI, GFI and IFI. These indexes were compared with guidance values to validate the proposed model performance.

This multi-sequence analysis checked that strong empirical confirmation of the research model was reached and reliable conclusions could be drawn regarding all relationships tested in this study.

4. Results and Analysis

This section reports and discusses the results of questionnaire data analysis. The analysis is conducted in a systematic way to achieve the research purposes and develop the proposed hypotheses. Data collected were analyzed by SPSS for descriptive statistics and partial analysis and Structural Equation Modeling (SEM) was done by AMOS to evaluate measurement and structural model.

Descriptive statistics are first reporteed in the section to explain respondents' perceptions of the study constructs. Such instructions are then tested for their analyzability, reliability and validity in order to establish that the collected data is appropriate and measurement model robust. Finally, the findings from hypothesis testing are presented and discussed according to estimated path coefficients and model fit indices.

4.1 Descriptive Statistics

The arithmetic mean and standard deviation for each of the questionnaire items over all the constructs can be found in Table 1. The findings reveal that all the main constructs (excepting attitude) displayed descriptive mean values above midpoint (3.00), demonstrating that respondents held a generally favorable image about the design constructs investigated.

Table 1 Arithmetic mean and standard deviation of questionnaire variables

Code	Item Description	Mean	Std. Dev.
Distribution Strategy (C17) – Mean = 3.54		3.84	1.46
C1	Advise		
C2	Submitting offers based on customer request	3.19	1.08
C3	Paying attention to local and commercial relations	3.28	1.01
C4	Positioning based on product and distribution methods	3.72	1.71
Distinctive Product Strategy (C18) – Mean = 3.17		3.01	1.25
C5	High skills in choosing products		
C6	Products meet individual needs	3.34	1.12
Information Services Strategy (C19) – Mean = 3.78		3.61	0.98
C7	Data processing skills		
C8	A means of e-commerce	3.35	1.02
Effectiveness (C20) – Mean = 3.77		3.65	0.91
C9	Increasing effectiveness of economic development programs		
C10	Business interconnectedness	3.89	0.86
Objectivity (C21) – Mean = 3.18		3.18	0.92
C11	Realistic solutions		
Satisfaction (C22) – Mean = 3.46		3.73	0.90
C12	Enhances confidence in the project		
C13	Reduces problems	3.29	1.00
Cost (C23) – Mean = 3.94		3.94	1.04
C14	Reduces costs		
Supply Chain Performance (C24) – Mean = 3.58		3.67	0.72

C15	Responds to customers' needs		
C16	Achieving the highest percentage of compliance with standards	3.87	0.88

In terms of development strategy, information services strategy received the highest mean (3.78), which means that attention is focused on information processing and eservice support in telecommunications companies. Mean on Distribution strategy was also relatively high (mean 3.54), which emphasized the need for customer touch point and value network development. The individual product strategy, however, had a relatively lower mean of 3.17 (compared to the means for the price strategies), indicating that small firms did not depend too heavily on product differentiation.

In terms of criteria of strategy selection, cost (3.94) and effectiveness (3.77) were rated as most important for the factors influencing strategy choice is consistent with their resources limitedness and efficiency of small telecom companies. Objectivity (3.18) and satisfaction (3.46) were of moderate concern.

Finally, with a mean of 3.58 supply chain performance suggests that strategic practices are seen to make a positive contribution to responsiveness, compliance and service reliability. The standard deviations per item varied from 0.72 to 1.71, indicating the good consistency of responses among all items.

4.2 Analyzability, Validity, and Reliability Tests

Before testing our hypotheses, the appropriateness of the data for multivariate analysis and the reliability of the measurement model were intensively tested. The first step was to check the data for its analyzability in order to evaluate the missing values, outliers and normal distribution, this is because SEM requires a specific condition of about samples, as shown in Table 2. After, CFA was applied to test the reliability and validity of the construct.

Table 2 Reliability and validity assessment of the measurement model

Construct	Cronbach's	CR	AVE	Factor Loadings
Distribution Strategies	0.82	0.85	0.58	0.71–0.83
Distinctive Product Strategies	0.78	0.81	0.55	0.69–0.80
Information Services Strategies	0.86	0.88	0.61	0.74–0.85
Strategy Selection Criteria	0.84	0.87	0.60	0.72–0.84
Supply Chain Performance	0.88	0.90	0.64	0.75–0.86

Reliability was established by testing internal consistency of the constructs through Cronbach's alpha and Composite-Reliability (CR) and all values were greater than 0.70, suggesting acceptable reliability, as shown in Table 3. Standardized factor loadings and Average Variance Extracted (AVE) were used to assess convergent validity. All the loadings were significant, and surpassed 0.50, as well as AVE values being higher than 0.50 which showed acceptable convergent validity. Discriminant validity AVEs were obtained based on the Fornell-Larcker criterion, whereby the square root of each construct has to be higher than its intercorrelations with other constructs.

Table 3 Results of hypothesis testing using SEM

Hypothesis	Path	β	C.R.	Result
H1	Development Strategies → Supply Chain Performance	0.61	5.87***	Supported
H2	Development Strategies → Strategy Selection Criteria	0.58	5.12***	Supported
H3	Strategy Selection Criteria → Supply Chain Performance	0.54	4.96***	Supported

*** $p < 0.001$

As a whole, the measurement model fitted the observed data reasonably well (acceptable goodness-of-fit indices for RMSEA 0.90, GFI ¿ 0.90, and IFI ¿ 0.90). These results ensure the reliability and validity of the measurement model for further structural model analysis.

4.3 Correlation Analysis

The quasi-cause-and-effect relationship that exists between any two strategies and strategy selection criteria is studied in the correlation analysis, which is set out in Table 4. The correlations show that the distribution strategy correlates strongly with effectiveness ($r = 0.571$) and cost ($r = 0.416$), indicating that this strategy is suitable for profit seeking and cost cautious decision-making in small wireless firms. Its moderate correlations with objectivity and satisfaction also show that it plays a balanced strategic role.

Table 4 Correlations between small enterprise development strategies and strategy selection criteria

Strategy Selection Criteria	Distribution Strategy	Distinctive Product Strategy	Information Services Strategy
Effectiveness	0.571*	0.152*	0.495*
Cost	0.416*	0.132*	0.638*
Objectivity	0.284*	0.141*	0.269*
Satisfaction	0.301*	0.167*	0.288*

Significance level: p ≤ 0.05

On the contrary, the particular product strategy has poor correlations against all selection criteria; especially for the effectiveness ($r = 0.152$) and cost ($r = 0.132$), applying this product strategy to small companies' ability limited in resources is challenged. This result provides evidence that product differentiation strategy may be less applicable in the context of telecommunications where service efficiency and cost management are focused.

IS strategies had strong positive associations with cost ($r = 0.638$) and effectiveness ($r = 0.495$), indicating the central role of IS in producing low-cost-based operations as well as enhancing performance. The lower correlations with objectivity and satisfaction indicate that whereas information-induced strategies improve operational performance, their effect on behavioral and perceptual constructs is somewhat more constrained.

Above all, the correlation findings support that distribution and information services strategies are more akin to the processes implemented in (strategy) decision, especially if we consider effectiveness and costs. These results offer initial evidence for the proposed relationships and also support our further structural analysis with SEM technique.

5. Discussion

5.1 Discussion of Key Findings

The main empirical results of this study can be summarized and discussed as follows: • The effect of development strategies on supply chain performance: The findings demonstrate that small business development strategies positively and significantly affect supply chain performance. Specifically, distribution strategies and information service strategies show greater influences than but not the same as unique product strategies. This suggests that enhanced access to service, customer coverage and information is more important than promoting product differentiation for small telecom firms.

• Dominance of distribution strategies: Distribution policies are strongly related to effectiveness and cost measures, hence They can play an important role in the improvement of productivity and service level. This is consistent with the

servicefocused context of telecommunications from which on-time delivery and customer access define supply chain performance.

• Role of IS/IT strategies: Strategies for information services show strong correlations with cost efficiency and effectiveness highlighting the power of information processing, digital platforms or electronic service coordination. These practices align supply chain and visibility as integrated dimensions in the promotion of better operational performance.

• Restricted influence of distinctive product strategies:

The unique product strategy demonstrates low relationships with both selection criteria and supply chain performance. This implies that product diversification is not efficient for small telecommunications enterprises under the limitations of resources and competition since they have focused on resource efficiency identification and control.

• Role of criteria for selecting strategies: Thus, strategy selection criteria have a substantial impact on the performance of the supply chain demonstrating clearly their mediating role between development strategies and operation outcomes. Effectiveness and cost are revealed as the two most important criteria, which depicture the pragmatic decision-making perceptions of small-sized business organizations.

• Strategic fit and performance improvement: The results emphasize that supply chain upgrade performance relies on coherence of development strategies with rational and efficiency oriented selection criteria. Organizations that implement appropriate strategies and measure them with proper criteria will perform better, in terms of coordinating, responding to and depending on suppliers.

In summary, these results strengthen the argument on the role of strategic focus, knowledge based and operational alignment in enhancing supply chain performance within small telecom firms.

5.2 Theoretical Implications

Theoretical implications of our findings can be stated as follows:

• Strategy and supply chain theory integration: The empirical framework in this study leverages the linkage between strategies for small enterprise development, criteria for strategy selection and supply chain performance to enrich the literature of strategic management and supply chain. Such an integrated view of these variables complements earlier research that has addressed these factors separately.

• Mediating role of decision-making criteria: The results also offer empirical validity for the mediating effect of strategy selection criteria on development strategies and supply chain performance relationship. This paper extends current theoretical treatment with the addition of decision-making as a key process through which strategic intent is implemented.

• Contextualization within telecommunications: Working with the telecommunications sector, this thesis adds new sectorial understanding to strategy and supply chain theory. The results suggest that in service-delivery and technology-oriented settings, operating efficiency and information exchange are more critical to performance than product differentiation.

• Small enterprise strategy research offspring: Extending the small Big Strategy Research Unique Identification (RUI) theory. The research adds to SMEs literature by providing empirical evidence from a developing economy perspective. The findings raise important implications on how resource limitation impacts strategic priorities and performance outcomes, providing theoretical contributions to strategy development and implementation in contexts of limited-resource.

• Differential impacts of development strategies: The results demonstrate that development strategies and performance are not interchangeable. Distinctive product strategies have weaker direct relationships with theoretical relevance, compared with distribution and information services strategies indicating that different classes of strategy should be treated as differently in small business models.

These theoretical implications taken together, provide a more comprehensive understanding of the interplay between strategic orientation and decision making criteria in influencing supply chain performance among small telecommunications companies.

5.3 Managerial Implications for Telecommunications Enterprises

The practical implications for managers and policy makers at small telecommunications firms as a result of this study are numerous. These conclusions may be summarized as follows:

•Prioritizing distribution efficiency: Managers need to concentrate on developing distribution tactics that will result into better customer access, availability of services and coordination across the channels. Responsive and reliable distribution enable responsive and reliable supply chain performance, which is very important for telecommunication industry.

•Investment in information services capabilities: Telecom firms should invest in data processing systems, digital platforms and electronic service delivery devices. They create higher coordination, visibility and real-time decision-making throughout the supply chain that result in cost savings can be achieved as well as performance improvement.

•Using explicit strategy selection criteria: When managers assess strategic alternatives, they should depend on well-defined and objective criteria for selecting a strategy, in particular effectiveness and cost. Unclear criteria succumbs to the predispositions of decision makers and result in failure to successfully execute strategy.

•Matching strategies with resources: With scarce means of small organisations, entrepreneurs have to fit strategic choices into their financial and operational capacities. Cost-effective and operationally feasible actions are more likely to lead to sustainable supply chain improvements.

•Be careful with product differentiation: The relatively weak effect of unique product strategies is an argument to tread carefully and think twice when taking differentiation-oriented paths as it may only lead somewhere if available resources and market interest are in line. A focus on service efficiency and information integration may achieve better outcomes.

•Performance monitoring and feedback improvement: Managers are to create monitoring and feedback systems that regularly evaluate strategy effectiveness and supply chain performance. Frequent performance monitoring also ensures that adjustments can be made if necessary and long-term operation is safeguarded.

With these managerial inferences, telecommunications corporations are able to make better strategic decisions, increase supply chain capability and remain competitive within dynamic market space.

6. Conclusion and Future Research Directions

Research purpose: The study reported in this article empirically investigated the inter-relationship between small enterprise development strategies, strategy selection criteria and supply chain performance within the telecommunications industry. Based on a survey in a small telecommunications company and analysed using Structural Equation Modeling, the results provide useful contributions to understand the impact of strategic orientations and decision making processes on operational performance. The findings suggest substantial effects of small enterprise development strategies on supply chain performance, while the high impact patterns are observed in distribution strategies and information services strategies. On the other hand, unique product strategies seem to exert less impact, revealing realistic restrictions for small firms in service-based and resource-constrained settings. This research also verifies that the measures selected to assess the strategies, in particular performance and cost, strongly mediate the translation of strategy intention into better supply chain outcomes. Practically, the implication is that small telecommunication firms' managers should focus their attention on cost cutting strategies that are supported by strong information systems and guided with decision making criteria. By aligning strategic decisions with operating capabilities and cost, you may well lead to more sustainable performance improvement. However, this study has some limitations. Limitation The finds reported were a product of a single organisation research in the telecommunications sector, and therefore cannot be generalised across other organisations. Further, the crosssectional design prevents the examination of real-time fluctuations in strategy and performance. Further studies can generalize this by studying multiple companies in various regions or industries. Longitudinal designs could offer further valuable insight into the development of strategy-performance associations. In addition, future research could identify other mediating or moderating variables (i.e., technological readiness) to provide a more comprehensive understanding about the relationships between small firms' supply chain practices and performance. In general, this research findings make some theoretical and practical contributions such as showing the strategic and decision making factors that determine supply chain performance in telecommunications companies and outlining some promising areas for future research.

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