Research Article

Enhancing The Hospital Performance Through Strategic Implementation Of Supplier Relationships And Evaluations In Real-Time Sector-Specific Problems In Developing Countries

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ARTICLE INFO	ABSTRACT
	The research aimed to strengthen supplier relations and evaluations by understanding the relationships between healthcare providers and their suppliers, contributing to an increase in the quality of hospital performance. This was achieved through administering questionnaires on the level of practice and impact of SRM and SEC in various hospital Categories. The work resulted in developing a conceptual model enhancing the quality of hospital performance. The model revealed influencing and contributing factors of Hospital performance through sourcing strategies and trading partner participation. The descriptive analysis exposed the hospital categories that adopted SRM and SEC practices at different levels. The findings indicate that the effectiveness of the hospital supply chains increases by managing good supplier relations. In addition, the proposed benchmarked structural equation model acts as a good guideline to improve hospital performance. The study contributes to the novel idea of benchmarking the SRM and SEC parameters of various industries and imbibing them to the healthcare sector assuring quality healthcare. It also contributes to exploring the level of SRM and SEC practices and their impact. Thereby allowing us to identify the target hospitals to scale up the performance by adopting the developed model. **Keywords:** Benchmarked Practices, Supplier Relationship Management, Supplier Evaluation Criteria, Hospital Performance The Submitted work is an original contribution to research. The paper is not currently under review by any other journal.

1. Introduction

An intense literature review on supplier relationship management revealed that managing supplier relations in health care was a challenging task. There appeared to be meagre work in managing supplier relationships and evaluating and monitoring supplier performance in the healthcare sector. The literature review revealed that there is scanty work on efficient modeling techniques adopted to perform the supplier evaluations in developing countries. To address the emerging concerns in the hospitals, have an enhanced hospital service delivery and reduce the costs, the research work suggests the management of the supplier relationships with hospital suppliers, commonly referred to as Healthcare Supplier Relationship Management (HSRM). In the need to enhance the competition among the hospital suppliers, the HSRM adopts methods to manage supplier relations and evaluate the hospital suppliers, achieving effectiveness and efficiency of the hospital healthcare services.

Hence the formulation of the research proposal, planned to address the issues recognized in the health care sector. The research developed Supplier Relationship Management (SRM) model that simultaneously evaluates supplier performance for health care sectors. To achieve the objective of the study, to build a conceptual model that understands the relationships with the hospital providers and their suppliers, a questionnaire was administered gathering SRM practices in the hospitals among the healthcare experts and doctors. From the collected responses of various hospital categories: State, Central Government, private, teaching and corporate hospitals the HSRM model designed. The identification of factors along with the empirical analysis contributed to analyzing the influence of these factors on hospital performances.

The purpose of the paper was to contribute to the health sector considering modeling tools in the field of health sciences research, providing an approach to improve the effectiveness of hospitals by implementing the conceptual model in healthcare. The findings were structural relations among the SRM, and Performance Variables (PV). Results indicate that the effectiveness of the hospital supply chains increases by managing good supplier relations. In addition, the proposed structural equation model acts as a good guideline to improve the performance of supply chains in India.

2. Literature review

2.1. *Supplier Relationship Management*
Healthcare relates to the well-being and the quality of life of the patients, which represents a major portion of the country's expenditure (Miao. et al., 2019). SRM is an approach to assess the supplier's contributions and thus help determine which of those suppliers have the best influence on the success, ensuring hospitals' performance. SRM fosters positive relationships among the suppliers and the hospital staff, by guiding the activities involved to engage the suppliers (Singh et al., 2017). Its main goal is an improvement in business processes, creating a streamlined approach to enhancing the efficiency of the hospitals and the suppliers. A study on how management practices influence healthcare organizations was carried out by Lang and cheng 2012. For the same, a conceptual model was postulated to link comprehensive supply chain management practices. The authors suggested supplier relationship management is one of the SCM practices that need further research in the healthcare industry (Lang Ling Yap and Cheng Ling Tan, 2012). On these lines, the research progressed contributing to HSRM. The identified influencing factors of SRM have been described in brief.

2.1.1 Top Management Commitment
2.1.2   The complete process of getting, executing, measuring, and meeting the goals of management is a Top Management Commitment (TMC). TMC covers time and money factors alongside. It is the process where experts in healthcare realize the quality needs and become an integral part of serving the hospitals with strategic business management techniques (Tzempelikos, 2015).

2.1.3 Purchasing
The purchasing function in healthcare is responsible for professionally managing the hospital supplies by the supply market, ensuring the availability of necessary health supplies and services provided by the suppliers. Adding to the success factor for modern SRM practices. This includes strategic sourcing – supply planning, supplier selection, contracting and operative procurement -material ordering, expediting, and bill clearance. Purchasing includes safe and timely supply and also contributes to innovation and improvement in the strategic positioning of the hospital (Moons, 2018).

2.1.4 Selection
The right selection of the hospital supplier process leads to the increased overall performance of the hospital. The selection of the suppliers plays a major role in contributing to the hospital's performance. To meet the performance goals concerning the hospital suppliers it is important to evaluate various attributes such as geographical location of the hospital supplies inventory, relationship with suppliers, commitment towards the agreements/maintenance/delivery, experiences, and skills. These factors commit to the growth and development of the hospital resulting in the swift achievement of hospital goals (Mathur et al., 2018).

2.1.5 Communication
Integrating effective communication techniques helps develop strong supplier relationship management by promoting: long-term relationship goals, information sharing, improving risk management, and building trust. Effective communication, embraces authenticity, is central to building a trusting relationship, ultimately leading to commitment (Harland, 1996). David and Terry applied information and communication technology to the healthcare sector. The work was first of a kind and saw failures. The authors conclude the information process and practices have to be adopted from other sectors (David E. and Terry Y, 2007).

2.1.6 Supplier Involvement

The suppliers play a contributing role in enhancing the hospital's performance. The hospital management could achieve these by the practice of identifying, analyzing, and improving the existing SRM processes thereby optimizing the hospital's performance. Hospitals best practicing standards are measured through patient experience and quality by supplier involvement in decision-making. The improvement process includes business process improvement, innovative proposals, and continual improvement. Aiming to minimize errors, waste reduction, improved productivity, and streamline efficiency (Abdulsalam et al., 2018). The findings of the research were to see the supplier as a business partner (Peter Rohner and Tobias Mettler, 2010).

2.1.7 Innovative Practices

The hospital suppliers and the healthcare experts need to work hand in hand towards innovative practices to improve the hospital's performance. Coordination with hospital suppliers and administration of the hospital's roles can be succeeded by setting up strategies and coordinating with the hospital staff through available resources. These include skills of planning, communicating, organizing, and leadership all concerning the hospital's goals. Innovative practices can be stated as a piece of extensive knowledge to direct the hospital staff, suppliers, and other operations (Harland, 1996) to attain efficient performance. The authors stated that the govt. interference resists the transfer of industrial knowledge to healthcare. Suggesting to implement practices from other industries in the healthcare industry (Jan De and Robbert, 2011).

2.1.8 Supplier Technology Adoption

The management of information, knowledge, research, development, manufacturing, and operations management are the functional activities that encompass the hospital's goals. These activities must be integrated into a technology system. Hence, strategically being competitive depends on the proper management of technology. So, how a hospital develops, acquires, shares, and manages technology effectively as well as appropriately is the issue to be addressed strategically (Tzempelikos, 2015).

2.2 Performance Variable: A Balanced Scorecard Approach (BSC)

Hospital performance can not only be measured by the financial aspects rater also includes non-financial perspectives according to the hospital's vision and strategy (Chavan, 2009). The balanced scorecard approach is a tool to measure the performance of the hospital strategically (Chavan, 2009; Kaplan and Norton, 2001). "The traditional methods of measuring performance focused on financial indicators, the balanced scorecard measured the indicators that drive performance", Harvard Business Review, January/ February 1992.   The BSC approach follows a top-down driven process, that focuses on the hospital performance. It measures both the external factors such as patient perspective as well as the internal factors like hospital business, innovation with the suppliers, and the learning growth phase of the hospital along with their suppliers (poll, 2001; Latshaw and Choi, 2002).

The plan and process of a BSC:
i.   Define and translate the hospital's vision into strategy
ii. Link the hospital's strategic objectives with the hospital measures by communicating with their suppliers
iii. Plan, set targets, and align these with the hospital strategies
iv. Enhances the hospital patient feedback; learning and growth with hospital suppliers

A framework developed to implement and manage strategic objectives, targets, and initiatives. The four perspectives (Nielsen & Nielsen, 2015):

2.2.1 Financial Perspective

These are objectives that are linked directly to measurements of productivity, inventory, and return on investment in the hospitals. By linking the objectives from the model, we can identify where to define plans and make an investment (Stephen et al., 2017).

2.2.2 Patient Perspective

These are linked to the suppliers of the hospital, which in turn results in patient satisfaction with the services provided. This can be achieved by taking a step outside of the hospital and looking from the supplier's perspective at how the supplier sees us, as business partners, and what they need from us.

2.2.3 Internal Business Perspective

The measures and objectives determine how the hospital runs. Whether the products and services provided by the healthcare experts conform to what is required by the patients, happens by streamlining the internal process. Also, the best era to focus on new and creative ideas (Khatoon & Farooq, 2014).

2.2.4 Innovation and Learning Perspective

The measurement parameters are the skills, training, leadership, hospital culture, and healthcare expert's knowledge base. The innovation and learning perspective also includes the hospital's infrastructure and technology usage. This section is where most of the investment takes place for corporate and private hospitals (Stephen et al., 2017).

3. Methodology

The research aims to enhance the effectiveness of Hospital Supply Chains (HSC) by addressing the real-time sector-specific problems in India by developing a model for HSRM. An analysis plan comprised the study questions, targeted population, variables to be studied, and the primary requirement to research along the objective of the work. The main focus of the analysis plan was to address the approach of strategic SRM methods with the suppliers and identify additional parameters required in healthcare to enhance the performance and the level of SRM practice in various hospital categories.

To arrive at the critical elements that influence healthcare SRM, both primary and secondary data were examined in various fields. Industries such as manufacturing, airways, automobile industry, National Association of Purchasing Managers, the turbine industry, and healthcare were looked upon. Primary data collection was made through interviews, observations, case studies, and critical incidents.

Parameters such as knowledge sharing, priority on relationship, constant monitoring, mutual goals, technical capability, desire for business, satisfaction, commitment, geographic location, conducive environment, relationship duration, organizational learning, coordination, collaboration, and more were identified as the benchmarked practices essential for supplier relationships in the hospitals among developing countries.

	Research Questions	Objective to address	Variables Studied	Research Findings	The population to be Studied
1.	Is strategic Healthcare SRM followed in Hospitals?	Interview with Hospital Administrators on SRM practices	Demographic Details Categories of hospitals following SRM	Percentage of hospitals implementing SRM Respondent's attitude towards SRM	Supply Chain Manager Administrator Quality Chief Senior Executive Hospital Administrator Deputy Hospital Administrator Assistant Hospital Administrator
2.	What Additional Parameters have to be added to Enhance Supplier Relations	Conduct Literature Review (LR) on SRM related to Healthcare Identify the SRM practices in various industries through LR	Independent variables Dependent Variables The influence of independent variables on dependent variables	Benchmarked practices of SRM from other sectors	
3.	Which benchmarked parameters can be added to Health Care Sector	Interact with healthcare experts to identify the critical parameters of SRM that can be implemented in other sectors	Knowledge sharing Priority on relationship Organizational Learning Technical capability Performance history Financial position Desire for business Training Aids	Develop pilot study – Questionnaire to identify which of the parameters can be implemented in healthcare	
4.	Identify the level of Healthcare SRM practices in various categories of hospitals	Interview Healthcare experts on the practice of SRM in hospitals Conduct Literature Review (LR) on SRM related to Healthcare Identify the SRM practices in various industries through LR	Central and State Govt., Private and corporate hospitals Teaching hospitals	Central Govt. and Corporate hospitals followed SRM practices compared to state govt. and teaching hospitals	

Table 1. The Research Analysis Plan

3.1. Identification of SRM and PV Parameters

A descriptive research design was adopted for the HSRM study. The research was progressed by gathering qualitative and quantitative data that affect the effectiveness of SRM and PV in healthcare. A pilot study comprising 60 respondents from hospitals belonging to central Government, State Government, teaching, corporate and private categories was run. The parameters were identified from intense literature review, case studies, interviews, observations and critical incidents during the covid breakout. The questionnaire was prepared to have nine sections of factors that had to be marked on a Likert scale. The level of practice in the

hospital along with its impact was observed by the respondents. The second section captured information about the practices in the hospital to monitor various aspects of supplier performance and the degree of benefits obtained. This was followed by open-ended questions for suggestions and necessary modifications.

The initial statistical analysis was made using the JMP Statistical Package for industrial problem-solving. Certain parameters that didn't fit the healthcare and those parameters that reflected redundancy were omitted at this stage of the pilot study. From the responses collected the final questionnaire was developed. The final questionnaire consisted of seven sectors that were identified by existing SRM models in various industries, all of which were validated by healthcare experts covering all hospital categories. After multiple iterations, the final parameters were finalized, from which the final questionnaire was prepared. The final questionnaire was collected from doctors having experience in the field of hospital management for five years or more. The doctors were carefully selected such that, the hospitals are geographically distributed. The doctors had an MBBS degree along with a master's in their subject, and an equal proportion of male and female doctors were covered, for a more generalized parameter selection - equal distribution of hospital categories- Corporate hospitals, Private hospitals, teaching hospitals, state, and central government hospitals were studied.

3.2. *Verifying the Reliability and Validity of SRM and PV*

A focus group discussion was conducted to interact with subject experts to identify the critical parameters of SRM and hospital performance. The identified critical parameters were tested for validity and reliability by Multivariate Measurements to reduce the measurement errors. The final questionnaire for the study was prepared based on the collected information. From the FGD parameters: TMC, Purchasing, Selection of Suppliers, Communication, Supplier Involvement, Management, and Technology collectively formed the SRM factor. These parameters of SRM and PV were further verified for convergence and divergence to be sure for the model acceptance. The reliability and validity tests were run to verify if the parameters of SRM combined to form the factor. Content Validity - a test to check the adequacy of the SRM, PV samples were measured. Statistical indices such as Correlation between various parameters of SRM, and Hospital Performance to identify the degree of association between the variables by calculating the Pearson R-Value. To study the variations in the variable, convergent and discriminant validity were calculated to find a significant difference among factors.

(i) Demonstration of Correlation: SRM with PV

The statistical dependence of hospital performance on SRM practices is measured by its correlation. IBM SPSS AMOS version 24 tool was used to demonstrate the correlation. The constructs of SRM and PV reflected linear linkage to each other. The correlation coefficients (r) of SRM and PV were calculated using the mean and standard deviations. The results revealed that SRM and PV are positively linked together varying from low to high positive correlations. This analysis also exposed the dispersion of the data sets from the mean. The data points were observed to be nearer to the mean, showing there is a lower deviation within the data set thus, the less spread out the data. In addition to the focused group discussions, the statistical analysis also proved that the SRM and PV are correlated.

(ii) Establishment of Internal Consistency among the SRM and PV Constructs

Cronbach's alpha α measured the internal consistency of the SRM and PV constructs testing their reliability. The Cronbach's α results show an overall reliability ranging from 0.9492- 0.959, indicating a high correlation of the ranked values among the constructs. Consequently arrived at the statistically significant parameters for modeling the Structural Equation Model for the influencing parameters of HSRM on the hospital performance.

	Cronbach's α	Mean	Std Dev
Supplier Relationship Management			
TMC	0.9511	3.7367	0.7369
Purchasing	0.9522	3.7875	0.7405
Selection	0.9513	3.5417	0.9981
Communication	0.9492	3.6611	1.0727
Supplier Involvement	0.9531	3.5667	1.0146
Management	0.9519	3.3611	1.0438
Technology	0.9538	3.2067	1.3484
Performance Variables			
Financial Perspective	0.9590	3.3042	0.4763
Patient Perspective	0.9541	3.7567	0.8613
Internal Business Perspective	0.9569	4.0250	0.4466
Innovation and Learning Perspective	0.9550	3.7833	0.7231

Table 2. Correlation and Internal Consistency of the Constructs: HSRM, Hospital Performance Variables

4. Achieving Significant Fit Indices for Model Development

The individual verification of the parameters was verified for statistical significance to fit into the factors of SRM. The conceptual model for HSRM was then developed that Enhance the Effectiveness of Hospital Supply Chains by addressing the real-time sector-specific problems in India. The model fit indices CFI, RMSEA, and CFA were established to check for model acceptance.

4.1 The Fit Indices
4.1.1 Comparative Fit Index (CFI)
The CFI value in the model compares the performance of the developed model with the baseline model (Independent Model), where the independent model assumes a zero correlation between all the observed variables. The CFI calculation is not sensitive to the sample size. The CFI value should be greater than or equal to 0.90.

4.1.2 Root Mean Square Error of Approximation (RMSEA)
The standard deviation of the residuals is calculated as RMSEA values. It is the distance of the data points from the regression lines. It shows the concentration of the SRM and PV data points from the regression line. The RMSEA is calculated by squaring the residuals, finding the average of the residuals, and taking the square root of the result.

4.1.3 Confirmatory Factor Analysis (CFA)
Before the implementation of the measurement model in the hospitals, each of the parameters was confirmed CFA. CFA is a statistical technique that requires both; the number of factors that exist for the variables and the factor loadings before the results can be computed. The application of the model will be put into practical use based on the factor loadings in the theory being tested. The test specifies how the parameters are logically related to each of the factors; TMC, Purchasing, Selection, Supplier Involvement, Innovative Practices, and Technology. The measurement model is later combined with the structural theory to obtain a supplier Relationship Management SEM model.

Item	Item Loadings	Cronbach's Alpha α	Cronbach's Alpha if Item Deleted	CFI	RMSEA
Top Management Commitment					
Resources	0.963		.641		
Organizational Structure	0.961		.775		
Continual Improvement	0.933	0.842	.774		
Performance Measures	0.789		.580	1.000	0.000
Purchasing					
Service Policy	0.892		.253		
Service Strategy	0.898	0.912	.229	1.000	0.000
Integrated Suppliers	0.947		.381		
Selection					
Relationship	0.944		.666		
Location	0.922		.909		
Delivery	0.956	0.777	.542	1.000	0.000
Commitment	0.867		.622		
Communication	0.935		0.708		
Sharing Proprietary data	0.956		.992		
Interaction	0.902		.963		
Information Sharing	0.885	0.980	.959	1.000	0.000
Supplier Involvement					
Range of Products	0.626		.959		
Innovative Proposals	0.612	0.962	.966	1.000	0.000
Alternative Proposals	0.702		.910		
Innovative Practices					
New Services	0.885		.891		
Risk and Rewards	0.698	0.951	.959	1.000	0.000
Collaborations	0.928		.934		
Technology					
Electronically Linked	0.915		.978		
Service Requirements	0.915		.978		
Accessibility	0.915		.978		
Data Analysis	0.900		.995		
Inventory Monitoring	0.928	0.986	.981	1.000	0.000

Table 3. Significance Ratios of the SRM parameters

4.2 Construct Analysis of SRM
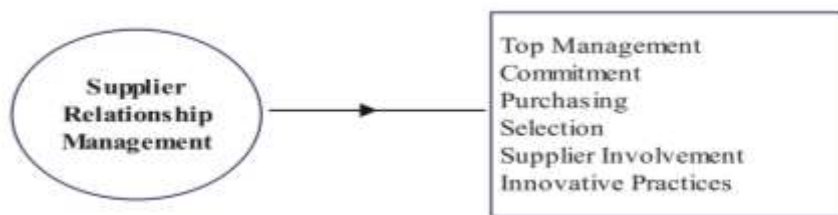
Figure 1. Construct Analysis of SRM

	CMIN/DF (0-5)	CFI (>=0.90)	RMSEA (0-1)
Supplier Relationship Management	1.4097	0.9999	0.0184

Inference:

The minimum discrepancy ratio of the developed HSRM model is calculated by the CMIN/DF value. For an acceptable model fit the ratio measures close to one. CMIN/DF value is 1.4097 for our SRM Model indicating that the model has a reasonably good fit.

Comparative Fit Index (CFI), analyses the model by testing the discrepancy between the default models of HSRM developed with the hypothesized model. The model fit value ranges from 0 to 1, with higher values indicating an excellent model fit. The SRM model has a CFI index of 0.9999 which is close to 1 and reflects an excellent fit. Root Mean Square Error Approximation (RMSEA), is the variation between the default covariance SRM matrix model and the model covariance matrix. The RMSEA values range from 0 to 1, a value of 0.08 or less indicates the model can be accepted. The SRM model has an RMSEA value of 0.0184 resulting in minimal error. The study majorly contributes to the healthcare sector by highlighting how the top management commitment positively influences supplier involvement and supplier technology usage. A long-term relationship between healthcare providers and their suppliers allows a free flow of ideas and feedback, creating an effective supply chain that is streamlined and has a positive impact on the performance of the hospitals.

4.3 Construct Analysis of Hospital Performance

Figure 2. Construct Analysis of Hospital Performance

	CMIN/DF (1-5)	AGFI (>0.9)	GFI (>0.9)	NFI (>0.9)	RFI (>0.9)	CFI (>0.9)	RMSEA (<= 0.1)
Conceptual Model	4.9175	0.9570	0.9116	0.9735	0.9393	0.9775	0.1496

Inference:

The CMIN/DF value is 4.9175 indicating that the model has an excellent fit. The model has a CFI index of 1.000 reflecting an excellent fit. The error value is 0.1496 resulting in minimal error and within an acceptable range.

5. Model Development to Enhance the Effectiveness of Hospital Supply Chains by Addressing the Real-time Sector-specific Problems in India for HSRM

Finally, after achieving the statistical significance for the model development, the final model was developed. The hypothesized model from the sampled data is in sync with the theoretical concept and hence accepted. The model fits are taken from the goodness of fit indices (Nimlyat, 2018). The model represents multiple equations that statistically test a set of relationships. The entire model has been determined acceptable before examining the relationships. Since the focus is on the whole model, a series of measurements are made on the SEM model to explain the input data. The model fit is determined by the correspondence between the observed covariance matrix and the estimated covariance matrix resulting from the proposed model. The model constructs depicted in the figure are the path diagram of the third-order measurement model of the HSRM. The goodness of fit values measured is **CMIN/DF= 4.9175, CFI=0.9775, AGFI=0.9570, GFI=0.9116, NFI=0.9735, RFI=0.9393, RMSEA= 0.1496** all within the acceptable limits with RMSEA value being exceptional (Hair et al., 2005) slightly above the acceptable limit. Standardized and unstandardized measurements were assessed based on the factor loadings of the measured indicators and fell within acceptable limits.

The SEM employed multiple regression along with path analysis to explain the relationships between the factors that influence each other. In this model, the goal is to examine the effectiveness of hospital supply chains through supplier management and selection. The SEM model consists of all the latent variables along with the indicator variable to measure and analyze in the statistical software Amos version 23. The model was cross-verified with other validity checks such as GFI, TLI, NFI, and AGFI to ensure that the HSRM model symbolizes the empirical data. The RMSEA which measures the discrepancy per degree of freedom for the HSRM (Nimlyat, 2018) is significant at **0.1496**, indicating a close fit of the model to the data.
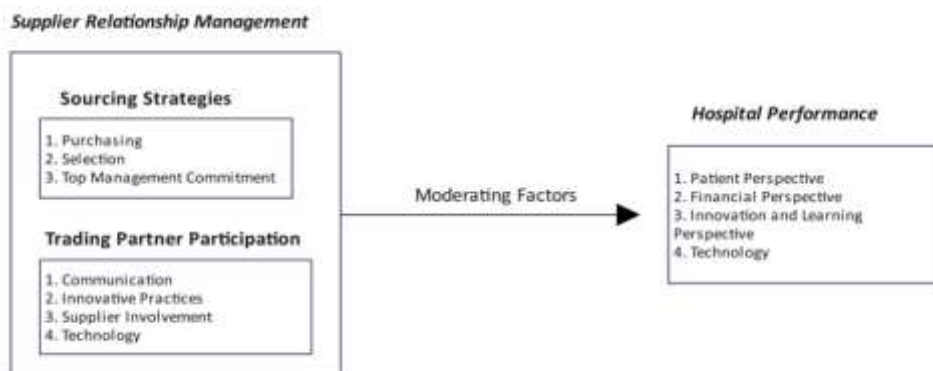

Figure 4. *Model to Enhance the Effectiveness of Hospital Supply Chains by Addressing the Real-time Sector-specific Problems in India for HSRM*

The constructs of sourcing strategies, trading partner participation, and Hospital Performance are represented by rectangles. The measured variables – TMC, purchasing, and selection parameters combine to form the sourcing strategies. Communication, Supplier Involvement, and Supplier Innovation Practices form the Trading Partner Participation. Patient Perspective, Financial Perspective, Internal Business Perspective, Innovation, and Learning Perspective are the Hospital Performance measurement factors represented by rectangle. The model specifies structural relationships between latent constructs with arrows.
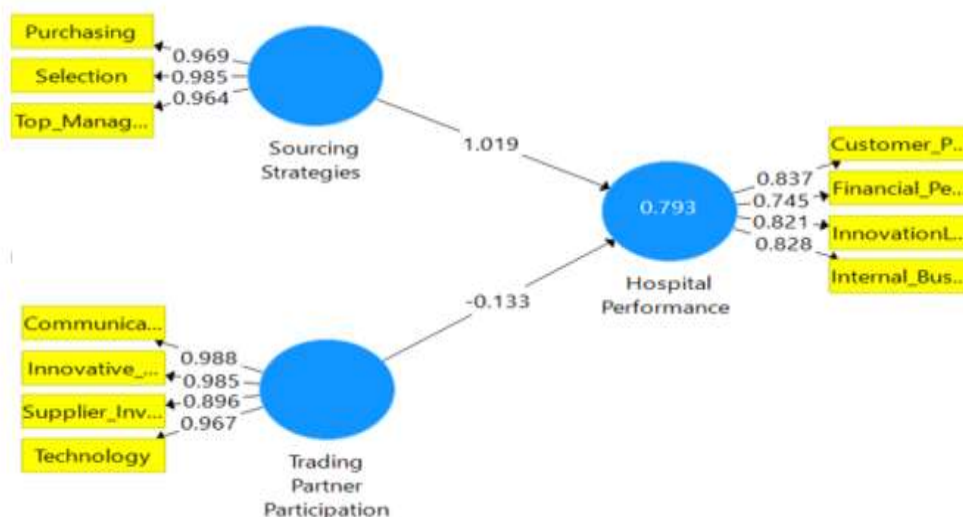

Figure 5: *Model to Enhance the Effectiveness of Hospital Supply Chains by addressing the real-time sector-specific problems in India for HSRM*

Sl. No.	Constructs	Factors	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
1.	Sourcing Strategies	Purchasing	0.969	0.972	0.981	0.946
2		Selection	0.985			
3.		TMC	0.964			
4.	Trading Partner Participation	Communication	0.988	0.971	0.979	0.921
5.		Innovative Practices	0.985			
6.		Supplier Involvement	0.896			
7.		Technology	0.967			
8.	Hospital Performance	Patient Perspective	0.837	0.826	0.883	0.654
9.		Financial Perspective	0.745			
10.		Innovation and Learning Perspective	0.821			
11.		Internal Business Perspective	0.828			

Table 4: Model Significance for *Hospital Supply Chains*

- The model was evaluated by the factor loadings, the hospital factors had values greater than the threshold of 0.600 (Gefen and Straub, 2005), hence all the factors were accepted
- To test the reliability of the constructs the research implemented Cronbach alpha and composite reliability (CR), all the cr's were higher than the recommended value of 0.700 (Wasko and Faraj, 2005)
- Convergent validity was accepted because the average variance extracted (AVE) was over 0.500
- Discriminant validity was accessed by Fornell- Lacker criterion, the square root of AVE for the construct was greater than the inter construct correlation. Discriminant validity was also assessed by heterotrait – monotrait ratio of correlations (Henseler et al., 2015) with values below the threshold value of 0.90, hence discriminant validity is established.

6. Results and Discussions

The study adopted multivariate linear regression and SEM to study the domain of the influencing factors of SRM on Hospital Performance. The framework resulted in a finalized structural regression model that enhances the effectiveness of hospital supply chains by developing a mode specific to HSRM and its relation to hospital performance. The model output gave a comprehensive interdependency of the performance variables with the TMC and selection, thus providing the dependency between the factors and the interactions among the measured indicator variables of different parameters. The results of the standardized and unstandardized estimates show that the performance variables- Patient Perspective, Financial Perspective, Internal Business Perspective, Innovation and Learning Perspective depend on the Top Management Commitment and the selection of the suppliers. The study shows that the top management commitment and the selection of the suppliers have a two-tailed significant direct influence on, the Hospital performance variables.

Supplier innovation practices, communication, and, technology are important factors of influence when selecting the suppliers of the hospital leading to improved performance in healthcare. Defining purchasing and supplier involvement is a step towards achieving sustainability in the top management commitment. Once this is achieved, a therapeutic environment will be provided by the healthcare management promoting healing, wellbeing, and productivity.

6.1 *Implications of the Study*
I.   The modeling parameters were identified by collecting SRM parameters from various sectors including manufacturing, retail, educational, and transport
II. Analyzing the influencing parameters of the SRM on the PV
(a) The supplier relationship strongly influences the internal business performance factor by 0.905 relating to a 90% correlation
(b) The innovation and learning factor also is influenced by the supplier relations maintained by the hospitals by 0.929, relating to a 92% correlation
(c) The selection of the suppliers influences the customer perspective performance variable by 1.000, relating to a 100% correlation, revealing that the selection of the suppliers from the hospital administrators is completely dependent on the release of supplies, reduction in error rates, handling complaints, after releasing of services and repeated association
(d) The SEC is also directly influenced by the innovation and learning perspective of the suppliers by 0.919, showing a 91% correlation.
III. The descriptive analysis studied how the various hospital categories are implementing the SRM, the analysis showed that the corporate hospitals and the central Government hospitals have adopted SRM practices when compared to the teaching hospitals and the state Government hospitals

7. Conclusion

The most obvious finding that emerged from the study is that the sourcing strategies and trading partner partnerships influence the performance of the hospitals. Importantly, this relationship is significant at both 0.921 and 0.913 (two-tailed level of significance). The variance from the model represents the comprehensive performance index. As a consequence, the sourcing strategy can be used as a criterion for the selection of suppliers, purchasing, and TMC.

The data collection for this study was conducted in various hospital categories. The descriptive analysis of the hospital categories revealed that the central Government, corporate hospitals, and private hospitals adopted more supply chain management strategies with their suppliers. This shows that there was no outright satisfaction in the state Government hospitals and teaching hospitals. This also confirmed in the structural regression model that the selection of the supplier depends on the communication of the healthcare supply chain experts with the suppliers, supplier innovation practices, and technology. The novelty of the model is its ability to address the performance rating through top management commitment and supplier selection. It can thus be deduced that a majority of supplier relations management practitioners across the institutions do not adequately concern themselves with the growth and development of their suppliers.

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