EVALUATION OF PERCEIVED VALUES OF CUSTOMERS AND POSITIONING STRATEGY OF APPAREL RETAILING: A CASE OF VARANASI CITY

Thesis submitted in partial fulfillment

for the Award of Degree

Doctor of Philosophy

by

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It is certified that the work contained in the thesis titled "**Evaluation of perceived values of customers and positioning strategy of apparel retailing: A case of Varanasi city**" by "**Abhishek Kumar Singh**" has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.

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सर्वतीर्थमयी माता सर्वदेवमयः पिता ।
मातरं पितरं तस्मात् सर्वयत्नेन पूजयेत् ॥

Mother is the object of devotion; father is the combination of all deities. Hence, it is the duty to serve both of them and to revere them all their efforts. I wish to express my gratitude to my parents **Mr. Rajesh Kumar Singh** and **Mrs. Beena Singh,** for their blessings.

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Indices and parameters for Chapter 4

STENV/STEN	Store Environment
MDASRT/ASRT	Merchandise Assortment
STCO/COMM	Store Communication
SHSO	On-Shelf Availability
RTRN	Ease of Return of Product
PRAC	Product Accessibility
SHFA/SHCO	Shopping Facilities/Shopping Convenience
PRINFO/INFO	Product-Related Information
EMP	Employee Attribute
CUSA	Customer Satisfaction
CULO	Customer Loyalty
PPRC/PRICE	Perceived Price

Indices and parameters for Chapter 5

SF1	Demand chain management
SF2	In-store logistics Performance
SF3	Information and communication Technology
SF4	Collaboration among supply chain partners
SF5	Technology Adoption
SF6	Retail Environment
SF7	Human resource management
SF8	Merchandise management
SF9	Customer value proposition
i	Index for strengthening factors row wise

j	Index for strengthening factors column wise

Indices and parameters for Chapter 6

Y_i	Revised customer rating for customer requirements i
X_i	Initial customer rating for customer requirements i
A_{ij}	Interrelationship between customer requirement i with customer requirement j
X_j	Initial customer rating for customer requirements j
n	Number of customer requirements
Z_k	Initial design requirement rating for design requirement k
B_{ki}	Relationship between design requirement k with customer requirement i
Yi	Revised customer requirement rating for customer i
R_k	Revised design requirement rating
C_{kl}	Interrelationship between design requirement k with design requirement l Where, l = 1 to m except k value
Z_l	Initial design rating for design requirements l
m	Number of design requirements

Indices and parameters for Chapter 7

$[\otimes X_{ij}^{k}]$	Transformed Grey relation matrix of each expert k
$[\otimes \widetilde{X}_{ij}]$	Average Grey relation matrix
[z]	Crisp relation matrix
T	Total relation matrix
R_i	Summarises direct and indirect effects of barrier i have given towards other barriers
C_j	Summarises direct and indirect impacts of barrier j received

	from other barriers
R	Sum of row elements
C	Sum of column elements
μ	Mean
σ	Standard deviation
B1	Unclear organizational objectives
B2	Lack of understanding of competitive positioning benefits
B3	Lack of employee engagement
B4	Lack of education and training to the employee
B5	Lack of responsiveness
B6	Lack of continuous improvement culture
B7	Poor in-store operational performance
B8	Lack of management commitment and support
B9	Lack of Corporate Social Responsibility
B10	Lack of collaboration among supply chain partners
B11	Unwillingness to share information among supply chain partners
B12	Lack of communication
B13	Lack of new technology
B14	Lack of technical expertise
B15	Lack of demand chain practices
B16	Lack of financial resources
B17	High cost associated with new strategy

ABBREVIATIONS

AGFI	Adjusted goodness-of-fit index
AVE	Average Variance Extracted
CAGR	Compound Annual Growth Rate
CFA	Confirmatory Factor Analysis
CFCS	Converting Fuzzy values into Crisp Scores
CFI	Comparative Fit Index
CP	Competitive Positioning
CPIBs	Competitive Positioning Implementation Barriers
CPS	Competitive Positioning Strategy
CR	Composite Reliability/ Construct Reliability
CRs	Customer Requirements
CVP	Customer Value Perception
DCM	Demand Chain Management
DIY	Do-It-Yourself
DRM	Direct Relationship Matrix
ECR	Efficient Consumer Response
EDI	Electronic Data Interchange
EFA	Exploratory Factor Analysis
FDI	Foreign Direct Investment
FDRM	Fuzzy Direct Relationship Matrix
FDRs	Functional Design Requirements
FMICMAC	Fuzzy Matriced' Impacts Croise´s Multiplication Applique´e a UN Classement
GDEMATEL	Grey-theory and Decision Making Trial and Evaluation

	Laboratory
GFI	Goodness-of-fit-index
GOI	Government of India
GST	Goods and Service Tax
HOQ	House of Quality
HRM	Human Resource Management
IFI	Incremental Fit Index
ICT	Information and Communication Technology
ISL	In-store Logistics
ISM	Interpretive Structural Model
MI	Modification Indices
MICMAC	Matriced' Impacts Croise´s Multiplication Applique´e a UN Classement
NFI	Normed Fit Index
NNFI	Non-Normed Fit Index
PERFA	Performance, Ease of use, Reliability, Flexibility and Affectivity
PGFI	Parsimony Goodness-of-Fit Index
PNFI	Parsimony Normed-Fit Index
POS	Point of Sale
QFD	Quality Function Deployment
RBT	Resource-Based Theory
RBV	Resource-Based View
RFID	Radio Frequency Identification
RMSEA	Root Mean Square Error of Approximation
RMSR	Root Mean Square Residual

SEM	Structural Equation Modeling
SF	Strengthening Factor
SRMR	Standardised Root Mean Square Residual
SSIM	Structural Self-Interaction Matrix
TLI	Tucker Lewis Index
VMI	Vendor Managed Inventory
VoC	Voice of Customer

PREFACE

The apparel sector in India dominates the share of organized retailing. Indian apparel retailers face throat cut competition due to globalization, new technology development, new government policies/initiatives like Goods and Service Tax (GST), Digital India, Insolvency and bankruptcy code, and Foreign Direct Investment (FDI). In the future, traditional retailers can face three-sided competition for their survival and growth in the competitive market. The first competition will be from domestic counterparts with similar products to sell and familiar with the local environment and corporate giants. The second competition will be from foreign retailers with better retail offerings, international expertise, and advanced technology to sense the market. The third competition will be from rapidly rising e-tailing. Organized retailing in India is growing day by day, and there is much scope for traditional retailers in the coming decade. However, Indian retailers face many challenges like financial, technological, and cost of inventory.

Due to global economic instability, a decline in apparel retailing consumption in the United States and the European Union has been observed. Significant declination has been observed in the USA, Germany, France, and the UK. Therefore, foreign retailers seek a favorable market for their products. India can be the best place for them based on government policies/initiatives (GST, Digital India, FDI and Insolvency and bankruptcy code). Whereas India's per capita apparel consumption can increase by 25% between 2011 and 2015, the trend will continue until 2020. Due to this reason, the Indian market can be the best destination for foreign retailers. The fashion business witnessed several tectonic shifts; one is the changeover of control from brands to retailers in global fashion trends.

There is the prevalence of organized retailing in the current Indian scenario. This section shows the issues and problems that the thesis attempt to address based on the above discussions. The vital premise of this research is to propose a framework for providing guidelines for the decision-makers and managers in strategy formation to achieve a competitive position. Succinctly, the research objective of this thesis is as follows:

- RO 1: To design and develop a Proposed Instrument for assessing customer value perception and predict the effect on loyalty.
- RO 2: To identify the strengthening factors of competitive positioning and establish interrelationships amongst them.
- RO 3: To propose an integrated framework for system design for achieving an improved level of customer satisfaction.
- RO 4: To Analyse the interaction among barriers of competitive positioning strategy implementation in retail.

Since retailers attempt to create an image of their stores in the customers' minds over their competitors, in such context, it is essential to satisfy and retain the customers by providing the value-added services that customers can perceive. Retailers' better quality of offerings over their competitors can fulfill the customers and make them loyal. A study on customer perceived value and loyalty has conducted in Varanasi city (a tier II city of India). The government of India has taken many shops in the road widening process. The construction of buildings, roads, and the development of other infrastructure are at evolution. These issues make Varanasi the most favorable place to capture retailers' current situation and customer value perception (CVP). A questionnaire survey is used to understand the customer's perceived value. The survey

items have been taken from previously published research manuscripts and modified based on the experts' opinions to fit them better in the Indian customer context.

Further, the principal component analysis followed by varimax rotation is used to ensure the model variables' importance and suitability. Since the questionnaire was administered to a new set of respondents, location, and field, the scale went through exploratory factor analysis (EFA). Further, confirmatory factor analysis (CFA) was used for two models. The first one is the measurement model for in-store logistics. The second is the measurement model with In-Store Logistics, store environment, store communication, perceived price, merchandise assortment, customer satisfaction, and loyalty. Finally, the Structural equation model is used to test the hypothesized relationships.

Indian apparel retailers are adopting organized retailing at a rapid pace. Then, all stakeholders need to keep thoughtful attention throughout the changeover. While developing the competitive positioning strategy, it is required to know about the CVP and factors that strengthening the strategy (design requirements). To identify design requirements and establish interrelationships among them, interpretive structural modeling (ISM) has been used. Fuzzy matrix cross-reference multiplication applied to a classification (FMICMAC) is used to overcome the vagueness in subjective opinion to classify the factors in four clusters: autonomous, dependent, linkage, and driver. Therefore, key strengthening factors have been identified with better vision. The customers' value perception and retailers' competitive performance requirements (strengthening factor) need to be structured effectively. This framework can help retailers create, manage, and evaluate their positioning strategies in the Indian apparel retailing market. Quality function deployment has been used for the framework.

To implement a competitive positioning strategy in a retail firm, it is essential to understand the importance of resources and related barriers that can hinder the strategy's successful implementation. For the identification of barriers and classify these barriers in terms of cause and effect, DEMATEL has been used. This method can suffer from human biases, incomplete information, and uncertainty. To overcome this problem, the Grey theory has been applied. This theory can make better decisions in an unpredictable environment. The study finally provides some valuable guidelines for the managers and decision-makers to improve strengthening factors quality in the Indian apparel retailing context.

Keywords: Resource-based theory (RBT), Competitive positioning strategy, Strengthening factors for competitive positioning, Interpretive structural modelling (ISM), Grey theory, Decision Making Trial and Evaluation Laboratory (DEMATEL) technique, Structural equation modelling (SEM), and Quality function deployment (QFD).

CHAPTER 1

INTRODUCTION

1.1 Introduction

Apparel retailing has the highest share (8% with the value of USD 40 billion in 2013), after food and groceries, in the Indian retail market (Technopak report, 2014a). The value was USD 65 billion in 2017 and likely to reach USD 85 billion in 2021 (Deloitte, 2020). Further, apparel retailing holds the first position in organized retailing and growing rapidly (Venkatesh et al., 2015). In United States (US) and European Union (EU), the share of household consumption of apparel is declining, and their retailers are seeking a favorable marketplace for their products (Technopak report, 2020). India can be an attractive place for foreign retailers. Flexible government initiative/policy (e.g., Digital India, GST, Insolvency and Bankruptcy Code, relaxation in Foreign Direct Investment (FDI) policy and others), increased disposable income, rising middle-class consumer and young consumer belt cannot only play a role as a catalyst for foreign investment but encourage the traditional domestic retailers to adopt organized retailing.

The above discussion has shown that the competition is going to be fierce in the future. For the retailing business, the customer is the center of concern. In this competitive era, customer retention can play a winning role in survival and growth for any retail firm. Customer retention is beneficial for the retailers, like a retained customer can pay higher prices for the products and services in comparison to new customers without attracted to promotional offers (Ang and Buttle, 2006) and can save the cost associated with recent customer acquisition. In addition, customer satisfaction increases customer loyalty that reflects customer retention (Diaz, 2017). Retailers' better quality of offerings over their competitors can satisfy the customers and make them loyal. But, this is a challenging task to retain the customers over a period of time.

First of all, it is required to understand the customers' needs and expectations (Hanaysha, 2018). Further, it is necessary to understand competitors' offerings. Customer needs and competitors' offerings can enable retailers to position their stores in customers' minds over their competitors with better offerings. Hence, it has also known as competitive positioning (CP).

The Indian retailing sector is categorized into two sections, one is organized, and the other is traditional, also known as unorganized. Most of the market is captured by the traditional retailer in India. However, in this decade, the traditional retailer adopted organized retailing rapidly due to the new tax system rule (e.g., GST). GST enables retailers to source their goods from the best vendors from anywhere in India due to tax neutrality (Deloitte report, 2017). In addition, the Indian government has made GST registration mandatory for all retailers. Therefore, traditional retailers and new entrants are turning to organized retailing.

Traditional and new entrants face three-sided competition from domestic corporate retailers and others from foreign retailers. In this situation, retailers need to adopt a competitive positioning strategy. This chapter examines the apparel retailing sector, emphasizing the role of customer perception for the quality of offerings provided by retailers.

1.2 Global scenario of apparel retailing

Globalization and technological advancement set the next level of competition in the apparel retailing sector. According to the Technopak report (2015), the fashion business witnessed several tectonic shifts; one is the changeover of control from brands to retailers in global fashion trends (e.g., Zara, Primark, H&M, and Uniqlo).

Due to global economic instability, a decline in apparel retailing consumption in the United States and the European Union has been observed. Significant declination has been observed in the USA, Germany, France, and the UK. Whereas China and India's Per capita apparel consumption can increase by 50% and 25% respectively between 2011 and 2015, the trend seems to continue until 2020 (Technopak report, 2014b).

1.3 Apparel retailing in India

In 2015, India ranked third as a textile exporter and sixth as a clothes exporter (WTO Report, 2016). Apparel retail holds the second position of market share after groceries. FDI created two aspects of a coin for the Indian retailers: to get fierce competition from international retailers and to get an opportunity to learn international best practices. As of 2013, corporatized retail has a 19 percent share of the Indian apparel market (Technopak report, 2014a). Another research report showed that by 2020, the Indian apparel market is likely to reach USD 130 billion, with the major categories being men's wear (43 percent), women's wear (37 percent), and kids' wear (20 percent) (Deshmukh and Mohan, 2017).

Apparel retailing is dominating in the field of organized retailing (Venkatesh et al., 2015). In current trends, most retailers lack a competitive strategy for their store and their supply chains. Sahay and Mohan (2003) confirmed that almost one-third of the Indian companies had no supply chain strategy. India is the fifth most attractive place for foreign retailers. An increasing young population, urban demographics, customer awareness about products and services, and attraction towards western fashion; affects and force the retailers to change their competitive strategy.

A complex tax structure hinders domestic and foreign investment in the retail sector. GoI introduce the new tax structure as GST to simplify the complexity. GST benefited the retailers in excising duty elimination, lowering input costs, lowering inventory costs (e.g., refund of Tax on products for resale), and changing their system and transition management (IBEF report 2020). Relaxation in FDI norms also helps make the Indian market a good place for doing business (IBEF report, 2020). As a result, the organized retailing share in 2017 was 9%, double (18%) in 2021 (IBEF report, 2020).

1.4 Background and Motivation

The finding shows that the Indian apparel retailers adopt organized retailing rapidly based on the above discussion and extensive literature. Then, all stakeholders need to keep thoughtful attention throughout the changeover. There are many cases of failure of organized retailing in India (e.g., Vishal group, Subhiksha Retail chains, Trinethra, Fab city, and Varkeys group) (Dart consulting, 2012). Vishal group had 200 stores and shrunk to 100 due to lack in better location, poor economic and poor resource utilization (Forbes India, 2019). Later, the Vishal group comes back with better operations and location strategies.

As the products engineering process is pre-determined (after getting customer understanding and defined product based on that understanding) and stable operations, the retail service quality considers the customer an integral part of whole processes (Trappey et al., 1996). In the retailing sector, customer demand is diversified and uncertain then value perception is used at the place of customer requirements for quality assessment (Fung et al., 1998). Due to the diversity of Indian culture, customer satisfaction is the key concern for the Indian retail context. Some studies assess customer satisfaction in the retail sector, but few consider tier II city and apparel

retailing for study. However, in this research, a few services have considered that customers can be perceived, creating paucity in understanding the uncertain demand. To overcome this challenge, it stimulates a new research field. For survival and growth, retailers need to serve the value-added services that the customers can perceive.

India ranked as the fifth-largest global destination (IBEF report, 2020), and understanding value-added service requirements is limited. Retailers need to develop a framework to confirm the value-added service perception of customers. The customers' value perception and retailers' competitive performance requirements (strengthening factor) need to be structured effectively. This framework can help retailers create, manage, and evaluate their positioning strategies in the Indian apparel retailing market. To achieve competitive positioning in the customers' minds, retailers need to implement a competitive positioning strategy.

Competitive positioning strategy implementation considers the Customer value perception (utilitarian dimension and hedonic dimension). The utilitarian dimension deals with value for money and value for a time. In contrast, hedonic dimensions deal with feelings and emotions from the shopping experience and symbolic and social aspects of the shopping experience (Rintamäki and Kirves, 2017). Based on these dimensions, possible CVPs are identified from the literature (chapter 2) and validated by experts for the apparel retailing context. Here is an effort to help retailers for fulfilling customer value perceptions and implementing a competitive positioning strategy. The conceptual framework (figure 1.1) consists of CVP, relation with customer satisfaction, the impact of customer satisfaction on loyalty, VPs needed for identification of strengthening factors (enablers), prioritization of strengthening factors with the help of CVPs, and the implementation barriers to help retailers to implement the competitive positioning strategy. This research aims to find the possible CPVs that

impact customer satisfaction to retain the customer. A higher customer satisfaction rate can get the desired retention level (Berné et al., 2001). Thus, the primary emphasis of the research is on customer satisfaction rather than retention. The definition of terms mentioned in figure 1.1 will discuss in chapter 2.

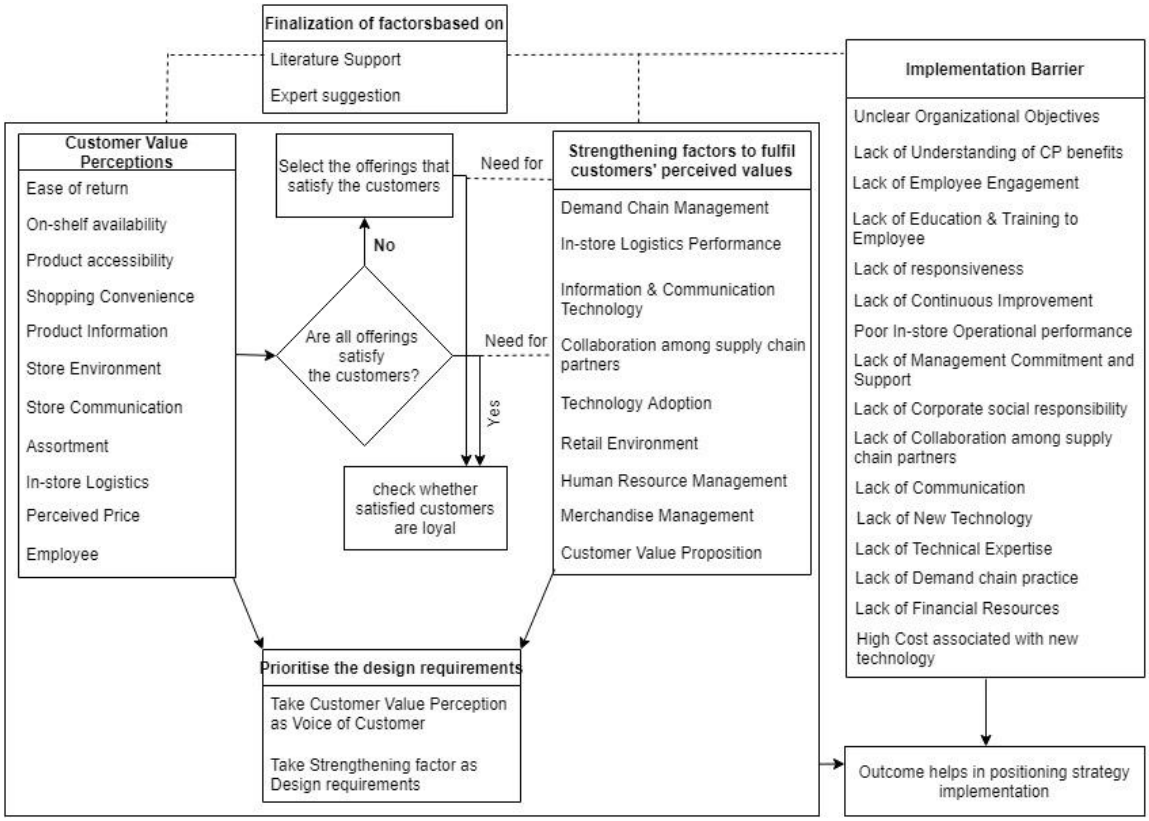


Figure 1.1: Conceptual Framework of the study

1.5 The objective of research work

There is the prevalence of organized retailing in the current Indian scenario. This section shows the issues and problems that the thesis attempt to address based on the above discussions. This research's vital premise is to propose a framework for providing guidelines for the decision-makers and managers in policy formulation concerning competitive positioning strategy implementation. Succinctly, the research objective of this thesis is as follows:

- **RO1:** To design and develop a Proposed Instrument for assessing customer value perception and predict the effect on loyalty.
- **RO2:** To identify the strengthening factors of competitive positioning and establish interrelationships amongst them.
- **RO3**: To propose an integrated framework for system design for achieving an improved level of customer satisfaction.
- **RO4:** To Analyze the interaction among barriers of competitive positioning strategy implementation in retail.

1.6 The novelty of the research work

In the literature, most works were from competitive positioning in Western countries, and some of them in the context of Indian metro cities. Moreover, these researches focused either on cost controlling or pure market-based. There is a complete absence of retail competitive positioning strategy in any Indian study to the best of our knowledge. This study assesses the customers' perceived values from one of the tier-II cities like Varanasi. Further, this study identifies the factors that can strengthen the competitive positioning strategy and establish the contextual relationships among these factors. It is required that customers' value perception and strengthening factors of competitive positioning be related in a structured manner. It is also essential to know about the resources and related barriers to competitive positioning strategy implementation barriers. This study can help the managers, decision-makers, and policymakers in the way of strategy implementation.

1.7 Organization of thesis

The thesis is divided into eight chapters and starts with a general introduction to the research work. Chapters 4 to 7 present the research related to mentioned objectives of

the study. An overview of thesis chapters is given below, followed by Figure 1.1 that shows the structure of thesis organization.

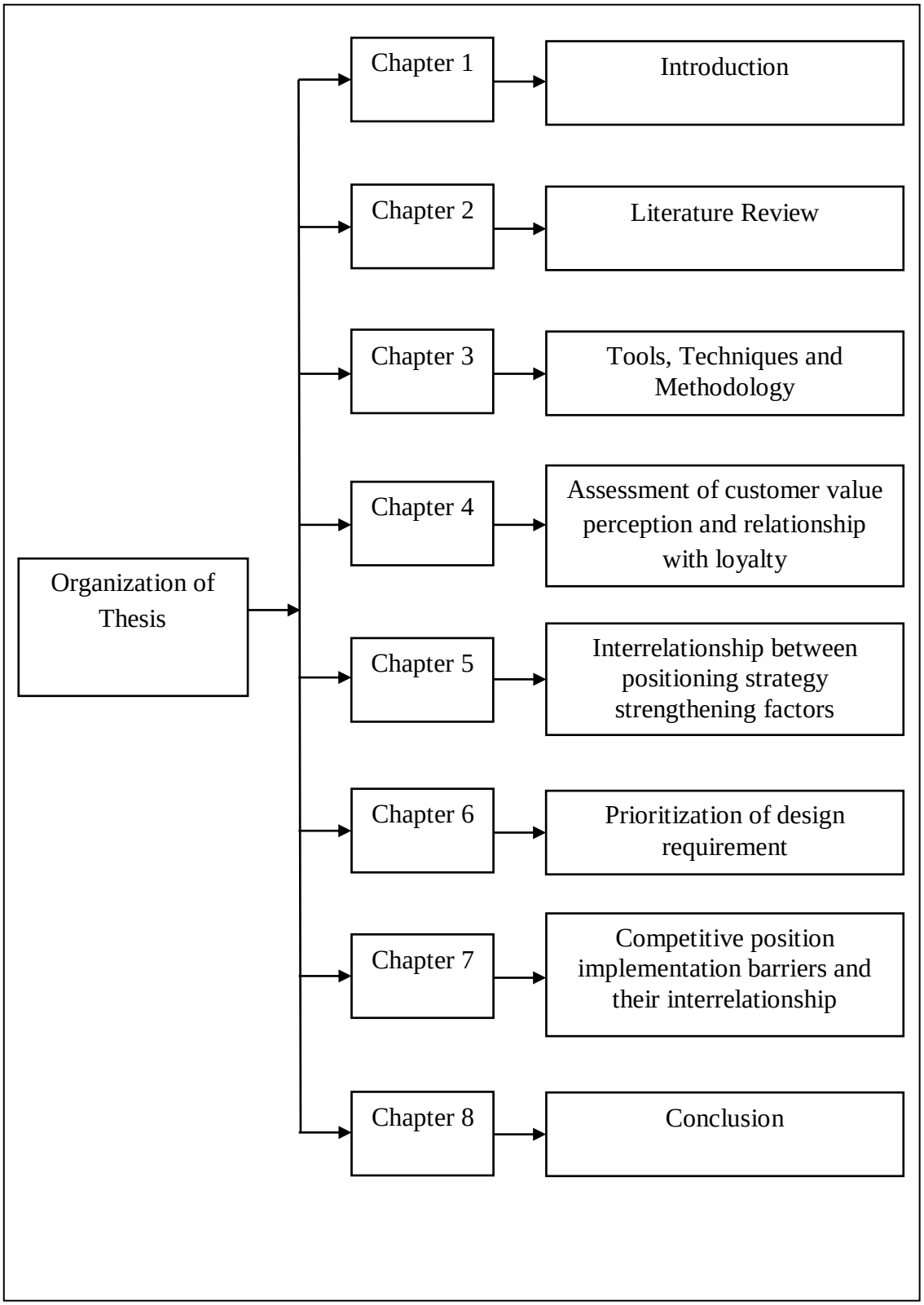


Figure 1.2: Structure of thesis organization

Chapter 2: Literature review:

The purpose of the literature is to explore the diverse range of organized apparel retailing and positioning strategy issues. Further, the literature is divided into three sections based on the research objectives. The first section explores the diverse range of assessment models of customer value perceptions regarding organized apparel retailing. The second section discusses the literature on strengthening factors for retail competitive positioning strategy (CPS). The third section provides extensive literature on resource-related barriers in the way of CPS implementation. For the classification of barriers, resource-based theory (RBT) and dynamic capability were used.

Chapter 3: Tools, Techniques, and Methodology

This chapter discusses tools, techniques, and methods that are used in the research work. Based on objectives, this chapter is divided into four subsections. The first section shows the exploratory factor analysis (EFA), confirmatory factor analysis (CFA), structural equation model, and application. The following section shows the identification of strengthening factors and their contextual relationships with the help of interpretive structural model (ISM), Cross-impact matrix multiplication applied to classification (MICMAC). Further, Fuzzy-MICMAC (FMICMAC) discusses as a method to overcome the issues of MICMAC.

Further, customer requirement is not accurate for retailing scenario due to diversity in demand. Therefore, customer value perception is used at the place of customer requirements. The next section uses quality function deployment (QFD) for service planning that deals with customer value perception more systematically. QFD tool and its application are discussed in this section. The last section identifies barriers in strategy implementation and their causal relationships with the help of Grey's theory and Decision Making Trial and Evaluation Laboratory (GDEMATEL).

Chapter 4: Assessment of customer value perception and relationship with loyalty

With extensive literature support, this chapter selects the several major customer value perception factors with their scale items. A questionnaire was developed and made it contextually relevant with the help of experts. A survey was conducted to measure the customers' perception regarding values offered by the apparel retailers. The responses were analysed using exploratory factor analysis (EFA). To measure customer value perception, customer satisfaction is used.

Further, confirmatory factor analysis (CFA) was used to check the reliability and validity of factors. To check the customer value perceptions' impact on customer satisfaction, a total of seven hypotheses were developed. The last hypothesis was used to study the impact of customer satisfaction on loyalty. Hypothesises were tested using structural equation modeling with the help of SPSS AMOS software. It found that all hypotheses were positive and significant.

Chapter 5: Interrelationships between positioning strategy strengthening factors

This chapter deals with the strengthening factors of competitive positioning strategy and their interrelationships. Factors are identified from extensive literature support and finalize by the expert suggestion. These factors are the design requirements, and the customers can directly perceive their outcomes. The ISM approach and MICMAC are used to establish the interrelationship among strengthening factors and classify the strengthening factors. MICMAC has some limitations, and to overcome these, FMICMAC is used to classify and place the factors in the hierarchy. This chapter's outcomes help managers and decision-makers identify the important strengthening factors and put their more considerable management attention on those factors.

Chapter 6: Prioritization of design requirement

In this chapter, customer value perception and design requirements are combined to create a framework to identify the urgent design requirements for developing the competitive positioning strategy. This approach helps the managers by prioritizing the factors that need urgent improvement to satisfy the customers. These design requirements are prioritized using QFD. The chapter is divided into four sections. The first section takes the customer value perceptions from chapter 4 as demand-side items. The second section takes the strengthening factors from chapter 5 as design requirement items. The third section establishes the interrelationships among demand-side items. The fourth section shows the interrelationships among design requirement items. With these data, a relationship between demand-side items and supply-side items establishes under this framework. Further, key findings are discussed before the conclusion based on the analysis discusses in earlier sections.

Chapter 7: Implementation barriers and their interrelationship

This chapter discusses how lack of proper utilization of resources can play a role of barrier in strategy implementation. Further, barriers are classified based on resource-based theory (RBT). The causal relationship of barriers can help the managers and decision-makers resolve potential barriers to strategy implementation. To find the causal relationship decision-making trial and evaluation laboratory (DEMATEL) is used. But, there may be many ambiguities in the subjective opinion. Therefore, Grey's theory is used. Findings are correlated with previous studies. A total of seventeen barriers are found in this study.

Chapter 8: Conclusion

This chapter concludes the study's significant findings, along with its recommendation, future scope, and limitation. It also discusses the specific contributions.

Finally, this thesis identifies the customer value perception for India's tier II city in chapter 4. The 5th chapter deals with service performance (strengthening factors) items for a competitive positioning strategy. The 6th chapter combines these findings to develop an integrated framework to prioritize the strengthening factors for enhanced customer satisfaction and help achieve competitive positioning in a better way. The seventh chapter deals with implementation barriers

CHAPTER 2

LITERATURE REVIEW

For the present study, the literature review can be classified into three sections followed by competitive positioning as follows:

1. Customer value perception for apparel retailing
2. Competitive positioning strategy strengthening factors
3. Competitive positioning strategy implementation barriers and their classification.

2.1 Customer value perception for apparel retailing

To establish and improve the competitive position, it is required to look at buyers' responses to products and services that influence buyers' buying decisions (Kardon, 1992). Customer value perception can be a powerful predictor of purchase intention (Chen and Dubinsky, 2003; Zeithaml, 1988). Perception can only a way to predict the service quality (Cronin and Taylor, 1994). For the competitive positioning of retail, it is essential to know about the values that can perceive by the customers. Kreis and Mafael (2014) introduced three types of customer-perceived value: economic, psychological, and interaction. In economic value, the reward points and discounts on products and services are considered. Under psychological value, the different type of services offered by the retailers is the focus. Under the interaction value, customers of retail stores and interaction with retailers are the focus. Further, Seegebarth et al. (2016) classified customer value perception into four categories: financial value, functional value, individual value, and social value. They showed their outcomes in terms of purchase intention, willingness to pay, and recommendation behavior. Rintamäki and Kirves (2017) observed customer value perception based on economic value, functional value, emotional value, and symbolic value. Under economic value, money and

discount are the focus. Under functional value, product availability, accessibility, responsiveness, and convenience are the focus. Under emotional value, mood and pleasure feeling is the focus. Under symbolic value, a good impression is a focus. Willems et al. (2016) focused on Efficiency, Product Excellence, Service Excellence, Social Value, Play, Aesthetic value, and Altruistic value for three retail formats: hard discounter, soft discounter, and non-discounter. Wang et al. (2004) used functional value, social value, emotional value, and perceived sacrifices impact on customer satisfaction. Perceived sacrifices are related to the price and discount that give instead of getting benefits. Sweeney and Soutar (2001) focused on quality, emotional, price, and social values. Chen and Quester (2006) focused on staff performance as customer perceived value and tested the impact of staff performance on customer satisfaction and loyalty. Verhoef et al. (2009) focused on the social environment, service interface, retail brand, customer experience dynamics, atmosphere, price, assortment, customer experiences in alternative channels to test the full detail of customer experience. Theodoridis and Chatzipanagiotou (2009) focused on personnel, atmosphere, products, Pricing, Merchandising, In-store convenience in-store, and supermarket. Brengman and Willems (2009) used store atmosphere (store design, social factors, ambient factors), merchandise (price, quality, assortment style), store reputation (CSR, Advertising, word-of-mouth, retail brand attitudes), and service (store format and location) to test on different types of perception like Sophistication, Enthusiasm, Genuineness, Solidity, and Unpleasantness. The findings clearly showed that store atmosphere and merchandise have a high impact on all perceptions. Under the merchandise factor, the price and assortment have a high impact on all perceptions. Islam et al. (2012) considered Physical appearance and policy, promises and problem-solving, personal interaction convenience, and product and store size as the dimensions of service quality.

Whereas they considered the retail image, brand image, quality and price as the dimension of customer satisfaction. Paulins and Geistield (2003) focused on store attributes like advertising, displays, outside look, reasonable price, type of clothing, convenient hours, flexible return policy, helpful sales assistant, pleasant dressing room, easy to find the product needed the customer perception. Indian researchers also focus on some factors that can be perceived and have an impact on customer satisfaction. Thomas (2013) focused on Price, product assortment, quality, store service, store image. All these factors have positively impacted customer satisfaction. Findings showed that most stores have competed on price, but the quality and store service dimensions have significantly impacted customers. Brengman and Willems (2009) stated regarding store personality that accurate determinant or building method is not clear yet. Bouzaabia et al. (2013) focused on in-store logistics that is first time used in the retail store. Further, the authors used merchandise, layout, and personnel as the dimension for the store image. In-store logistics positively impact store image and customer satisfaction. In the apparel retailing context, few research studies have been conducted to find the dimensions of customer perceptions. Thus, this study takes product availability, product information, product accessibility, return, shopping facility, merchandise, layout, personnel, price, and communication-based on the above literature. Bouzaabia et al. (2013) stated that the product availability, product accessibility, product information, return, and shopping facility is the dimension of in-store logistics that is a most important function for retail stores. Thus, this study starts with this consideration and with two new variables like price and communication. It can be the extension of the existing above manuscript Bouzaabia et al. (2013).

2.1.1 In-store logistics (ISL): A multi-dimensional construct

In-store logistics is the term introduced by Kotzab and teller (2005) in studying an Austrian supermarket chain retail store's dairy product. Further, the framework was used by Trautrims et al. (2011) in a study on one grocery and one do-it-yourself (DIY) retailer and Holweg et al. (2016) in the study of the grocery retailer. Holweg et al. (2016) argued that the ISL framework is also useful in less complex product settings and sectors like apparel retailing. ISL framework mainly focuses on the prevention from the out-of-stock situation in the store shelves. ISL's main task is transportation, inventory carrying, shelf management, handling, picking/packing, labeling, and order management/replenishment (Kotzab and teller, 2005). These tasks are related to store performance efficiency, but customers are also affected by these tasks. Services offered by retailers and perceived by the customers can create a position in customers' minds over their competitors. ISL's tasks create value to the customer regarding the product's return, product accessibility, shelf availability, and product-related information (due to labeling) (Ltifi and Gharbi, 2015; Bouzaabia et al., 2013). ISL provides the ease of shopping experience and shopping convenience also come under the ISL by providing the facilities like enough cash counter to provide ease of transaction, shopping carts, the convenient hour of operations, and sufficient carrier bags provided by the cashier (Bouzaabia et al., 2013).

(a) Ease of return

Return of unwanted and defective merchandise is the center of focus for all online and physical stores in the current scenario. Many retailers follow the policy like no question arises while returning merchandise. Powers et al. (2013) stated that liberal return policies are believed to have a competitive advantage in customer retention and

goodwill for retailers. Janakiraman et al. (2016) noted that ease of return could enhance the purchase in the store.

(b) On-shelf availability

On-shelf product availability is a critical task for retailers (Dabholkar et al., 1996). Even Walmart's recent failures to enhance on-shelf availability were explained mainly by understaffing (Greenhouse and Tabuchi, 2014). Towill (2005) considers product availability as a market winner for "fashion goods". On-shelf availability has induced customer loyalty and market share (Ettouzani et al., 2012; Zinn and Liu, 2008). For instance, a customer liked an item that was not his size and required an item not available on the shelf. In contrast, that item may be stocked in another retail store location that can negatively affect customer satisfaction. On-shelf availability is the central part of the in-store logistics operation.

(c) Product accessibility

Kotzab and teller (2005) stated that in-store logistics is also responsible for the merchandise presentation. Why merchandise presentation? Visible products and organized merchandise presentation, and shopping convenience help achieve shopability (Burke, 2005). Burke and Payton (2006, p.66) define shoppability as "the capacity of the shopping environment to transform consumer needs and desires into purchases". Product accessibility in the display itself will facilitate the shopping approach, whereas shoppability has not been researched in terms of product display (Damminga et al., 2012).

(d) Shopping convenience

Customers avoid the time and efforts associated with the shopping process (Moeller et al., 2009). Shopping convenience is the global motivation to save time and effort during

the shopping process (Padmavathy et al., 2019). The time associated with waiting time in a queue for checkout, product search time, and other waiting time whereas effort related to ease of use (e.g., shopping carts, carrier bags, and facilities to save physical energy) (Padmavathy et al., 2019; Khare et al., 2012).

(e) Product information

The potential task of in-store logistics is labeling. Labeling is responsible for ease to search product and their related information (Padmavathy et al., 2019; Alba et al., 1997). Different types of product-related information (Ha et al., 2007) are used to help customer decision making like product characteristics (e.g., *Price, Size, Color, Style number, Fabric construction, Country of origin, Item availability, Size chart, Alternative images of products* and wash information), product availability information, and order information (Kim and Lennon, 2010; Bouzaabia et al., 2013). Product-related information directly affects the buying decision and consumer satisfaction (Kim and Lennon, 2010).

The above review suggests that ISL is a multidimensional construct comprising ease of return, on-shelf-availability, product accessibility, shopping convenience, and product-related information. Conceptually each sub-construct is not the same. Only a few studies have considered all five sub-constructs of ISL in a single theoretical model (e.g., Bouzaabia et al., 2013). Bouzaabia et al. (2013) have not tested the hypothesis for dimensions that reflect the ISL i.e. their construct (i.e., in-store logistics) is based on prediction. Research that considers all five sub-dimensions of ISL and tests the theory whether they represent an accurate representation of the latter is needed. Based on the discussion, the following hypothesis is proposed:

H1: In-store logistics is a second-order factor, comprised of the sub-dimensions of ease of return, on-shelf-availability, product accessibility, shopping convenience, and product-related information.

2.1.2 In-store logistics and customer satisfaction

In terms of customer perception, ISL is responsible for the shopping experience and convenience (Bouzaabia et al., 2013) by providing the five sub-constructs mentioned above. ISL has been seen as a method of on-shelf-availability (e.g., Trautrims et al., 2011). Bauzaabia et al. (2013) and Ltifi and Gharbi (2015) found the positive relation of ISL with five sub-constructs on satisfaction. Therefore, the following hypothesis was developed.

H2: In-store logistics positively influence customers' satisfaction in apparel retailing scenario.

2.1.3 Store environment and customer satisfaction

Levy and Weitz (1995) argued that the store environment is a market differentiation tool. The store environment consists of store design and merchandise assortment (Damminga et al., 2012). Fashion products' display is an essential element of the retailing environment and responsible for planned and unplanned purchases (Kerfoot et al., 2003; Wood, 1998; Kalla and Arora, 2011). Here, the main focus is on the design and merchandise display rather than ambient because ambient (e.g., music) can be imitated easily and less critical than the above two (Baker et al., 2002). Further, Baker et al. (2002) stated that physical design affects the customers' perception of merchandise price, quality, and service quality. Guenzi et al. (2009) argued that customer perceptions of the store environment (primary focus is on layout) influence their cognitive and affective responses. Titus and Everett (1995) argued that store layout

has a significant impact on customer satisfaction. Thus, the following hypothesis was developed.

H3: Store environment positively influences customer satisfaction in the apparel retailing scenario.

2.1.4 Store communication and customer satisfaction

Communication is an essential part of establishing a relationship with customers (Guenzi et al., 2009). Store communication has used in the study of Pharmacy (e.g., Castaldo et al., 2012), bank (Ndubisi et al., 2011; Agariya and Singh, 2011), and grocery retailing sector (e.g., Tripathi and Dave, 2013; Prasad and Aryasri, 2011) and found positive impact on the customer satisfaction. Communication is the ability to serve rapid and trustworthy information during shopping and post-shopping (Prasad and Aryasri, 2008). Provenance and transparency are essential communication elements (Rutter et al., 2017; Vehmas et al., 2017). Communication is the critical driver for customer satisfaction (Agnihotri et al., 2009) and is perceived as reliable, transparent, and completes (Castaldo et al., 2016). Based on the above, the following hypothesis was proposed:

H4: Store communication positively influences customer satisfaction in apparel retailing scenarios.

2.1.5 Merchandise assortment and customer satisfaction

Merchandise assortment affects the shoppers' store choice, retail patronage, consumption qualities, and preference and purchase decisions (Chotekorakul and Nelson, 2013). The quality of merchandise affects the customer's decision, and retailers' different quality levels create a possibility to select a relatively expensive one (Simonson and Tversky, 1992). The competitor in their locations can imitate many

successful offerings of one retailer. Therefore, the retailer can use its assortment to take advantage of its competitors (Guenzi et al., 2009). Customers' perception of merchandise assortment is proposed as price, quality, and merchandise variety (Bauer et al., 2012; Lombart et al., 2018). Based on the above, the following hypothesis was proposed:

H5: Merchandise assortment positively influences customer satisfaction in apparel retailing scenarios.

2.1.6 Perceived price and customer satisfaction

According to Ailawadi and Keller (2004), "No matter how the characteristics of the consumer, product, store or purchase situation might differ, price represents the monetary expenditure that the consumer must incur to make a purchase". There are two types of price, one is objective (i.e., the actual price of the product), and the other is perceived (i.e., product price that may vary across consumers, products, purchase situations, and time) (Beneke and Zimmerman, 2014; Jacoby and Olson, 1977; Dodds et al., 1991). Perceived Price plays a significant role in purchase decision-making (Chiang and Jang, 2007). Voss et al. (1998) suggested that perceived price decision has an impact on customer satisfaction. Munnukka (2005; 2008) indicated that customers' price perception is closely related to the perception of quality, value, and other beliefs. Based on the above, the following hypothesis was proposed:

H6: Perceived price positively influences customer satisfaction in the apparel retailing scenario.

2.1.7 Employee and customer satisfaction

Kumar and Kim (2014) argued that the three cues (i.e., stimuli) are controlled by retailers as a social cue, design cue, and ambient cue in the apparel retailing context.

Baker (1987) stated that social cues refer to employees and customers in the store, design cues refer to visual elements (e.g., color, layout, and architecture), and ambient cues refer to non-visual elements (e.g., temperature, music, light). Above, in the environment section, design and ambient have been discussed, and due to easy imitation and adoption by approx all retailers, the ambient was not considered in this research.

Service (e.g., Twing-Kwong et al., 2013) and behavior (Jayawardhena and Farell, 2011) of employees serve as tangible cues to reduce the perceived risk of format alternatives (Basu et al., 2014). In addition, employees' service quality can be a key retailing strategy to fulfill customer needs (Sum and Hui, 2009). Based on the above, the following hypothesis was proposed:

H7: Employee positively influences customer satisfaction in the apparel retailing scenario.

2.1.8 Customer satisfaction and loyalty

Customer loyalty is the upshot of customer satisfaction (Parasuraman et al., 1991) and exhibits repeat patronage behavior and intention (Cronin et al., 2000). There is a contradiction in terms of the positive relationship between customer satisfaction and customer loyalty. One section of the researcher supports the positive relations (e.g., Parasuraman et al., 1991; Cronin et al., 2000; Chen and Quester, 2006), whereas others oppose (i.e., Oliver, 1999) the positive relations (i.e., customer satisfaction does not result in retention). Customer satisfaction is usually linked with responses against the retailers' offerings regarding what they expect and what they find (Yoo and Park, 2016).

H8: Customer satisfaction positively influences customer loyalty in the apparel retailing scenario.

The theoretical constructs and their relationships are based on the hypothesis shown in figure 2.1. The model was tested using data collected from the customers from multi-brand outlets.

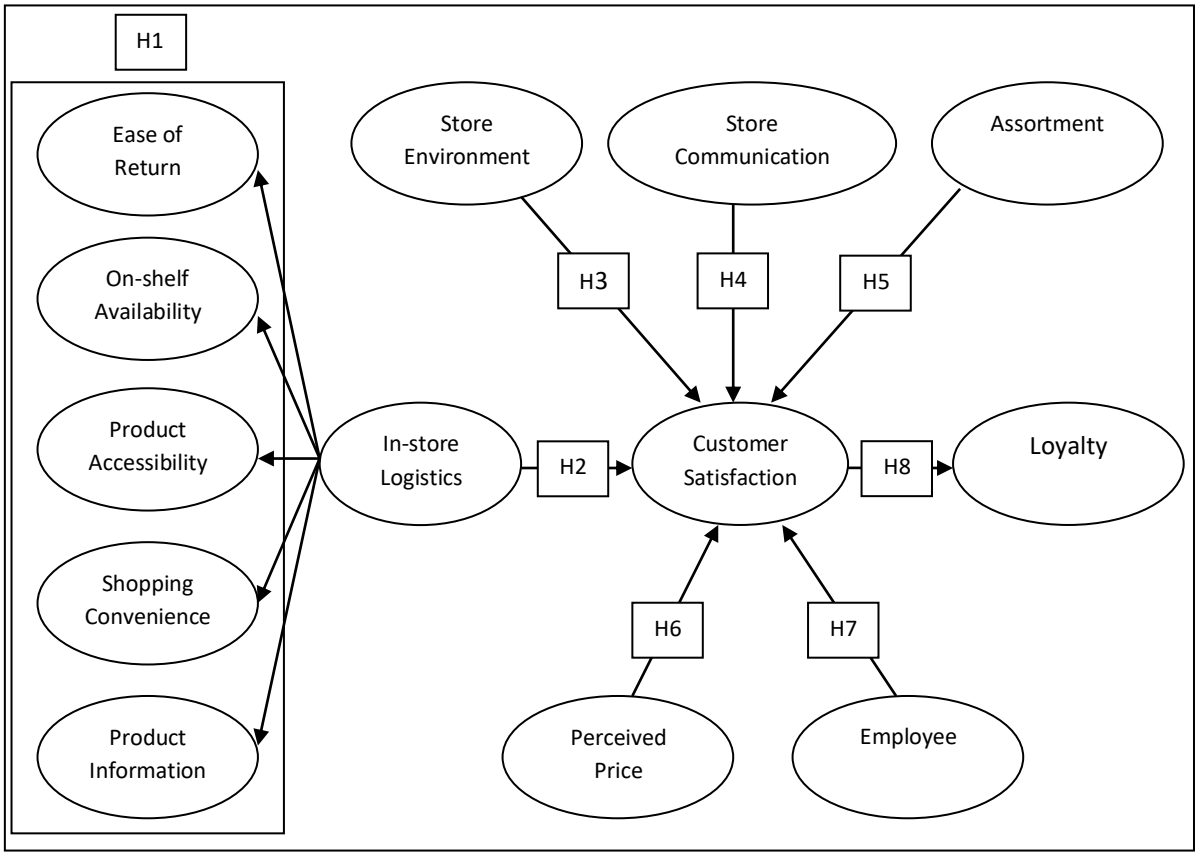


Figure 2.1: Hypothesized relationship model

2.2 Competitive positioning

There are two words, one is competitive, and the other is positioning. Several definitions of positioning focus on firms and services shown in table 2.1 (Source: Saqib, 2020). Competitive positioning is the second sophisticated step of positioning (Darling, 2001). Positioning mainly deals with offerings and positioning the product/services in the customers' minds (Ries and Trout, 1986). In comparison, competitive positioning deals with the formulation of firms' offerings (Darling, 2001).

Table 2.1 Positioning definitions

Author/Year	Definitions
DiMingo (1988)	Actual positioning is the process of distinguishing a company or product from competitors and real dimensions benefits or values that are important and meaningful to customers to become the preferred company or product in a market.
Apostolidis et al. (1989)	Positioning tries to build or occupy a psychological place in relation to an identified competitor.
Quelch (1991)	Positioning is a management concept in which products or services stand in the marketplace comparative to competitors' products and services.
Engel et al. (1993)	Positioning is defined as the perception that targeted consumers have of firms offering relative to competitors.
Lautman (1993)	Positioning is defined as a strategy that enables a brand or service to occupy a preferred and unique place in a customer's mind that is consistent with the overall marketing strategy.
Palmer (1994)	Positioning is an attempt by the organization to distinguish its offerings from its competitors to give it a competitive advantage within the market.
Jobber (1995)	Positioning is the choice of the target market and differential advantage; the objective is to create and maintain a distinctive place in the market for a company and its products.
Oliver (1995)	Positioning concerns the perceptions and preferences of consumers regarding the organization and its products.
Trout and Rivkin (1996)	Positioning is simply concentrating on an idea or even a word that defines the company in consumers' minds.
Hooley et al. (1998)	Positioning is the act of designing the company's offering and image to occupy a meaningful and distinct competitive advantage.

Kotler et al. (2005)	Positioning is a process by which a marketer discovers in the consumer/customer, client, or prospect a unique niche for a product or service meaningful to such a person.
Armstrong and Kotler (2012)	Positioning is arranging for a market offering to occupy a clear, distinctive, and desirable place relative to competing products in target consumers' minds.
Boatswain (2015)	Positioning refers to decisions regarding the type of attributes the firm uses to position an offering and how it conveys information about its offering to the targeted consumers.
Lakshmi et al. (2017)	Positioning involves finding the proper location in the minds of a group of consumers or market segment so that they think about a product or service in the "right" or desired way.

Positioning processes focus on occupying the customers' minds, whereas competitive positioning consists of two steps. One is to occupy the place in the customers' minds through offerings, and others are differentiating the offerings from their counterparts (Darling, 2001).

2.3 Competitive positioning strategy strengthening factors

To achieve a position in the market, a large number of strengthening factors play a role. To identify the enablers, a literature review of papers published over 22 years (1995-2016) was covered. The only peer-reviewed articles have been targeted. Articles have been selected based on the criterion that the paper should include any aspect of keywords such as retail strengthening factors, CP factors of retail, and retail positioning factors. However, most of the articles on retail positioning were either case-based or qualitative. Therefore, to bring more clarity to the concept, there was a requirement for identifying factors. Nine factors (Table 2.2) were found to be relevant and valid by

academic experts (Deshmukh and Mohan, 2017). A brief discussion of each factor is presented in the following sections.

Table 2.2: Strengthening factors

Strengthening Factors	Description	Reference
Demand chain management **(SF1)**	• "the chain of activities that communicates demand from markets to suppliers" (Jacobs, 2006). • "The alignment of demand creation and demand fulfillment processes across functional, organizational and inter-organizational boundaries" (Hilletofth and Ericsson, 2007).	Walters and Rainbird (2004), Christopher (1998), Langabeer and Rose (2001), Wen and Song (2015), Agrawal (2012), Deshmukh and Mohan (2016), Santos and D'Antone (2014)
In-store logistics Performance **(SF2)**	• in-store logistics is described as actual managing, organising, ordering and processing merchandise within the retail store (Samli et al., 2005). • It have two aspect of a coin one is the availability of items in the shelves is an essential key performance indicator for the purchasing transaction and other is inventory handling and carrying costs as well as costs for human resources are at that level of a supply chain quite intense (Liebmann and Zentes, 2001).	Zinn and Liu (2008), Kotzab and Teller (2005), Fisher (2009), Ehrenthal and Stölzle (2013), Holweg et al. (2016)
Information and Communication Technology **(SF3)**	ICT allows enhancement in retailer services, saving shopping time and positively impacting the value of the retailer's relationships with customers and its suppliers (Gil-Saura et al., 2009).	Hutt (1995), Singh et al. (2006), Sharafizad (2016), Chevers and Spencer (2017)
Collaboration among supply chain partners **(SF4)**	It is close and coordinated relationships of organizations with their major business partners (Sharma and Bhat, 2014) to get benefited. Still, the main beneficiaries are customers, and this collaboration is also	Stank et al. (1999), Lehtonen (2006), Villako and Raal (2007), Flint et al. (2011), Ventovuori and Lehtonen (2006), Nyaga et al. (2010),

	used to get a competitive advantage (Mehrjerdi, 2009).	Stank et al. (2001), Qrunfleh and Tarafdar (2013), Kumar et al. (2016)
Technology Adoption **(SF5)**	Advancements in various technologies have allowed for faster transmission of data resulting in the ability of buyers to react immediately on inventory and pricing issues (Fiorito et al., 2010).	Hopping (2000), Padgett and Mulvey (2007), Pfahl and Moxham (2012), Pantano and Timmermans (2014), Inman and Nikolova (2017)
Retail Environment **(SF6)**	The retail environment is the stores' first physical aspect by which the customer directly interacts. It also played an important role in unplanned buying (Sherman et al., 1997) and for impulse buying (Mohan et al., 2013).	Turley and Chebat (2002), Baker et al. (2002), Roschk et al. (2016), Newman and Foxall (2003), Tomazelli et al. (2017), Sherman et al. (1997), Mohan et al. (2013), Babin and Attaway (2000), Roschk et al. (2016)
Human resource management **(SF7)**	Human resource management can contribute to sustained competitive advantage through facilitating the development of competencies and employee motivations that are firms specific, produce complex social relationships, embedded in a firms history and culture, and generate tacit organizational knowledge (Barney, 1991).	Prowse and Prowse (2010), Gorane and Kant (2013), Senik and Verdier (2008), Gotsi and Wilson (2001), Aurand et al. (2005), Sartain (2005), Papasolomou and Vrontis (2006), Foster et al. (2010), Punjaisri and Wilson (2011), Matanda and Ndubisi, (2013), Delgado-Ballesteretal et al. (2014), Anselmsson et al. (2016), Ferguson and Reio Jr (2010)
Merchandise management **(SF8)**	"The activities involved in the planning, developing, and presenting product lines for specified target markets with regard to prices, assorting, styling, and timing" (Kunz 1998 p. 391).	Park and Park (2003), Grewal et al. (2012), Fitzsimons (2000), Zinn and Liu (2008)
Customer value	It is a strategic concept that ties the	Payne and Frow (2014),

proposition **(SF9)**	customer and company perspectives together for value creation and competitive advantage Rintamäki et al. (2007).	Bower and Garda (1985), Anderson et al. (2006), Rintamäki et al. (2007), Lindič and da Silva (2011)

2.3.1 Demand chain management

It is an essential factor to achieve competitiveness in the market. Christopher (1998) stated a new dimension in the supply chain called demand chain management (DCM), and according to DCM, the market should drive the chain, not the suppliers. Further, Langabeer and Rose (2001) defined the demand chain as a complex network of business processes and deeds that help firms recognize, manage and, ultimately, create consumer demand (Walters and Rainbird, 2004). Walters and Rainbird (2004, p. 474) defined the demand chain as "an understanding of current and future customer expectations, market characteristics, and of the available response alternatives to meet these through the deployment of operational processes". The supply chain's primary goal is to reward the shoppers with reduced prices (Walters and Rainbird, 2004), but this does not ensure that the firms' competitive position is enhanced because competitors can drench the market with lower-cost substitutes (Langabeer and Rose, 2002; Wen and Song, 2015). The Indian firms still emphasize efficiency and cost reduction. DCM can sense real-time demand and develop an offering to meet market requirements (Agrawal, 2012; Deshmukh and Mohan, 2016). DCM studies are unclear on the processes essential for the demand-and-supply alignment inside the company (Santos and D'Antone, 2014). Based on existing literature and knowledge, DCM can be an essential and required factor.

2.3.2 In-store logistics performance

This factor plays an essential role inside the store and affects the sales directly. Frequent stock-outs can endanger future sales and diminish store and brand loyalty (Zinn and Liu, 2008). In-store logistics' ultimate goal is operational efficiency, which means to offer the quantities of products as requested by end-users at the lowest possible costs (Kotzab and Teller, 2005). As Fisher (2009) illustrates, inaccurate inventory-related decisions in the store have led to remarkable markdowns. In the retail store, stock-outs generally occur because of poor logistics processes. Better supply chain management execution is the leading cause of variation in the profit margin. According to Fisher (2009), it focuses on four realms: pricing, range of products, store execution, and stocking. On-shelf availability is vital to store success. Ehrenthal and Stölzle (2013) observed that improvements in-store operations and the coordination of store delivery and shelf replenishment are most effective for improving on-shelf availability. Holweg et al. (2016) addressed what happens to unsalable items and suggested the answer for this question in terms of logistics components. Here, we need to change the location, value of the products, quality, and quantity; those are the logistics components.

2.3.3 Information and Communication Technology

Information technology is a vital source to achieve a competitive advantage. Information and communication technology (ICT) facilitates the firm to establish communication between interacting parties (Hutt, 1995). It can enhance shoppers' satisfaction and provide a competitive advantage (Singh et al., 2006) and its tools to get tangible and intangible resources (Sharafizad, 2016). The tangible resources are sales and transactions, while the intangible resources are information and advice. Chevers and Spencer (2017) have drawn a scatter plot showing that when the ICT component increases, customer satisfaction also increases. ICT components in the retail stores are

high-speed internet service, theft-detection system, point of sale (POS) systems equipped with the card-accepting facility, telephone service, and RFID enabled system, radio communication service (to convey information of products and offers to provide more satisfaction level to shoppers), wireless talkies (to aware managers about store status) and others. POS can provide stock-out information to manufacturers or suppliers through EDI and facilitate the customer through easy transactions. The RFID-enabled store can help quickly seek products and location, quick payment, and security from shoplifting. RFID can also identify the shoppers, and retailers' behavior can offer their customers actual value rather than a retailers' self-offering.

2.3.4 Collaboration among supply chain partners

Collaboration among supply chain partners deals with automatic replenishment of inventory based on actual demand rather than long-range forecasting (Stank et al., 1999). Collaboration among supply chain partners depends on information sharing, clear mutually defined and agreed goals, joint problem solving, and collaborators' ability to fulfill performance expectations (Lehtonen, 2006). When the service importance is high for the customer or end-user, a business needs to share sensitive and strategic information. Customers always want to get more value for their money (Villako and Raal, 2007). The service frame of mind driving increased collaboration enables suppliers to have a deeper perceptivity to customers' value (Flint et al., 2011). Purchasing volume is high or managing the purchasing situation due to market condition or purchased service package then a Collaboration among supply chain partners selected (Ventovuori and Lehtonen, 2006; Lehtonen, 2006). The household income of Indians is now improved, and it influenced the customer attitude. Now, customers need good quality products and convenience.

Firms build Collaboration among supply chain partners s with their partners to achieve flexibility, efficiencies, and sustainable competitive advantage (Nyaga et al., 2010). Stank et al. (2001) Suggested, internal and external collaborations are necessary to ensure supply chain performance. Further, Qrunfleh and Tarafdar (2013) find in their research paper that supplier relationship plays a mediating role between lean supply chain strategy and supply chain responsiveness. Vendor-managed inventory (VMI), coordination, and cooperation practiced before the Collaboration among supply chain partners. Kumar et al. (2016) analyzed how culture involvement and relationship strength positively impacted other collaborative activities as market-based information sharing, operational resource sharing, and joint planning for executing schedule and supply chain performance.

2.3.5 Technology Adoption

In the retailing evolution, the primary strengthening factor is a technology that played an important role (Hopping, 2000). Innovation in Technology is the foundation of a successful business (Padgett and Mulvey, 2007). The customer always remembers the shopping experience, and the technology can help to achieve them. Pfahl and Moxham (2012) stated that integration in ECR, RFID, and Supply chain visibility could be considered a strategic capability within the retail supply networks. The term ‘smart retailing’ is introduced to improve shopping experiences (Pantano and Timmermans, 2014). Technology that is customer-facing plays a vital role in increasing the revenue and decreasing the cost. According to King and Gribbins (2002), the primary focus of technology adoption understands individual behaviors rather than an entire organization. Thus, because the new technology may need some new infrastructures and skills beyond individual control, it may not benefit its customers (Kamaruddin and Udin 2009). Inman and Nikolova (2017) argued in their study that technology adoption,

especially customer-facing technology, affects customers' perceptions. They also argued that new technologies also provide value by decreasing costs associated with the customer, increasing revenue by attracting new customers, increasing the share of volume from existing customers, or extracting a more significant consumer surplus.

2.3.6 Retail Environment

The environment of the retail store is the first physical aspect by which the customer directly interacts. Therefore, the retail environment can affect customer shopping behavior. Turley and Chebat (2002) suggest that the retail environment can be divided into five categories. Those are as follows: Exterior cues (parking availability), general interior cues (lightning, music, and atmosphere), layout and design (traffic flow, merchandise grouping and placement of cash register), point of purchase, and decoration (display and signage) and the human factor (employee and crowding). Baker et al. (2002) also suggest three categories like design, ambiance, and social factors. Consumer satisfaction and behavioral intention are also affected by the color, scent, and music verified by Roschk et al. (2016). Newman and Foxall (2003) stated that the store's layout could affect the customer's mood. Tomazelli et al. (2017) also suggest that the physical aspect of the store is important for an older customer and customer-to-customer interaction. The shopping decision is dependent on the customer-to-customer interaction, especially in old shoppers. The retail environment played an essential role in unplanned buying (Sherman et al., 1997) and impulse buying (Mohan et al., 2013). A study on the Canadian grocery chain explores that if each shopper purchases one extra item, the profit will increase more than 40 percent (Babin and Attaway, 2000). A well-designed store environment positively enhances the shopping experience and increases sales (Roschk et al., 2016).

2.3.7 Human resource management (HRM)

The most important factor in achieving competitiveness is the skills and competence of employees. Skills and competencies can be achieved by providing training and education to employees, maintaining a pleasant and secure working environment, treating all employees fairly and consistently, and encouraging involvement by teambuilding, mutual respect, and open communication (Prowse and Prowse, 2010, Gorane and Kant, 2013). Undeveloped human resource encumbers employees' commitment to achieving organizational goals (Senik and Verdier, 2008). HRM has been focusing on training, recruitment, and inducement programs for existing employees (Gotsi and Wilson, 2001; Aurand et al., 2005; Sartain, 2005; Papasolomou and Vrontis, 2006; Foster et al., 2010; Punjaisri and Wilson, 2011; Matanda and Ndubisi, 2013). HRM impacts customer engagement and may enhance the quality of interaction with customers (Matanda and Ndubisi, 2013). Since the 1960s, store image has been the research focus to understand the customers' perceptions of retail stores and chains (Delgado-Ballesteretal et al., 2014; Lindquist, 1974; Keaveney and Hunt, 1992; Timmermans, 1993; Oppewal and Timmermans, 1997). HRM has extended from operative work such as salaries and benefits administration to strategic initiatives such as mergers and acquisitions, talent management, succession planning, industrial and labor relations, and sometimes even corporate branding (Anselmsson et al., 2016 p. 1190).

2.3.8 Merchandise management

Merchandise management is a strengthening factor in enhancing the store image in the shoppers' minds. Shoppers' expectation regarding in-store shopping experience is increasing nowadays. Customer needs good quality products from large varieties of the product line. Therefore, retailers should focus on purchasing a good quality product

with many varieties and have accurate forecasting of demand. Merchandise management deals only with human resources and is difficult to manage because many brands and merchandise are available. Merchandise management has three primary functions; these are as follows: Demand forecasting, purchasing, and evaluating and selecting (Park and Park, 2003). When a consumer makes a plan for shopping, he must consider two critical resources: time and money. When the customer visits the store, that is far away, and he believes that the required product will be available at that store (Grewal et al., 2012). When the merchandise is not available, it affects the consumers' store patronage decisions (Fitzsimons 2000; Zinn and Liu 2008).

2.3.9 Customer value proposition

The value proposition is an essential factor in customer management's overall value creation practices (Payne and Frow, 2014). Bower and Garda (1985) briefly discussed the concept of a value proposition. Many authors agreed on two concerns: one is that the customer perspective should define a customer value proposition, and the other is that the customer value proposition has a key strategic role within the organization in chase of competitive advantage (Anderson et al., 2006; Webster, 1994). Rintamäki et al. (2007) suggested that identifying customer value proposition starts with understanding the key dimensions of customer value and finding the four dimensions – *economic, functional, emotional, and symbolic.* The emotional and symbolic dimension represents the point of difference to retailers who try to achieve a competitive position through differentiation. Lindič and da Silva (2011) have decomposed the value proposition into five parts: *performance, ease of use, reliability, flexibility, and affectivity* (PERFA). PERFA helps managers to decide what to innovate in terms of enhancement of value proposition to their customers.

2.4 CPS implementation barriers and their classification

Grimmer et al. (2018) stated that resources directly affect the strategic planning capability and affect firm performance. Rahman et al. (2018) argued that having the resources is not adequate; firms must have requisite capabilities to identify and utilize those resources to take advantage. Resources help provide the service to create values (Song et al., 2016). A firm's success depends on the resources and capabilities that are controlled and owned by the firm (Galbreath, 2005). This study is an effort to identify the most relevant barriers to CPS implementation in apparel retail stores.

Further, these barriers have been classified in terms of resources and capabilities. The fashion business witnessed several tectonic shifts; one is the changeover of control from brands to retailers in global fashion trends (Deshmukh and Mohan, 2017) and required a new strategic plan. Further, implementing the strategic plan is more important than its strategy (Obeidat et al., 2017).

Competitive positioning is the statement of the market target (where to compete) and competitive advantage (how to compete) of a firm (Hooley et al., 2008). The retailers attempt to attract the customers to shop at their store and try to fulfill their needs by providing the best services and unique values compared to their competitors. Kharub and Sharma (2020) argued that competitive positioning is directly affected by customer satisfaction and firm performance rather than quality management. There are two types of strategies to achieve a competitive position: differentiation strategy and cost leadership strategy. The firm's differentiation strategy can explain the customers for purchasing any products or services rather than the cost leadership strategy (Hooley, 2008, p. 73, Hooley, 1998). This study focuses on the barriers of differentiation strategy implementation in the apparel retailing context.

The implementation of a CPS affects a firm's dimensions. The traditional firm dimensions are firms' structure and systems, whereas the resource-based theory of firms' capability is a new dimension (Voola and O'Cass, 2010). To achieve a competitive position, it is essential to see the firm's resources and capabilities inside (i.e., the firm's resources and capabilities). The resource-based view (RBV) coined by Wernerfelt (1984) highlights the resources of the firms to achieve a competitive advantage (Sirmon et al., 2007). Galbreath (2005) defined the resources as *firm-level factors* and divided them into two fundamental categories as Tangible resources and Intangible resources. Tangible include financial and physical values measured on firms' balance sheets, whereas intangible resources include non-physical and non-financial and rarely included in firm balance sheets. Further, if firms are not interested or, on the other hand, implement the differentiation strategy without understanding the related factors cannot reap the advantage (Howard et al., 2017).

The review includes papers from various journals like Knowledge-Based Systems, International Journal of Production Economics, Academy of Management Review, Decision Support Systems, International Journal of Production Research, Computers and Industrial Engineering, Academy of Management Journal, and Benchmarking: An International Journal. It also includes reports of current trends related to apparel retail in the Indian market by various prominent consulting companies like Technopak, WTO, etc. The second part covers the review on identifying the strategy implementation barrier of CPS in apparel from 2000 to 2018. A total of seventeen barriers have been identified from the literature and validated through experts. Barriers have been listed with description and reference in Table 2.3.

Table 2.3: Barriers of competitive positioning implementation for Grey-DEMATEL

Barriers	Description	Reference
Unclear organizational objectives (B1)	To implement a new strategy it is required that a firm has clear vision with two notions as firm mission and goal (Infinedo, 2008). Holsapple and Joshi (2001) argued that the organizational objective is the schematic resource of firm and if it found unclear then it may be detrimental to organizational performance.	Infinedo, 2008; Holsapple and Joshi 2001; Johnson and Scholes, 1999; Dangayach and Deshmukh, 2005.
Lack of understanding of competitive positioning benefits (B2)	Organizations lack belief in CPS benefits.	Expert Opinion
Lack of employee engagement (B3)	Employee engagement lacks adopting the change, whereas it has been shown to influence a range of behavioral, attitudinal, performance, and financial outcomes. In addition, lack of employee engagement can affect productivity, customer service, and performance (Mone et al., 2011).	Gorane and Kant, 2015; Albrecht et al., 2015; Christian et al., 2011; Halbesleben, 2010; Mone et al., 2011; Kahn (1990, 2010)
Lack of education and training to the employee (B4)	Organizations need skillful and competent employees to deliver value efficiently. Training develops the skills, knowledge, abilities, attitudes, and personal resources of employees by which they satisfy the needs of customers (Albrecht et al., 2015) and the firm's goal and positively affect employee engagement (Luthans	Konings and Vanormelingen , 2015; Albrecht et al., 2015; Demerouti et al., 2011; Luthans et al., 2010

	et al., 2010).	
Lack of responsiveness (B5)	Responsiveness is responsible for the speed of delivery to the customer and other is the degree of responsiveness to the customer enquiries and requests (Theoharakis and Hooley, 2003).	Shockley and Turner, 2015; Shockley et al., 2011; Barnes and Lea-Greenwood, 2010; Theoharakis and Hooley, 2003
Lack of continuous improvement culture (B6)	Organizations lack the motivation to implements new strategy. Koval et al. (2018) studied the impact of continuous improvement in the service sector of India and found that continuous improvement positively influenced the service sector and the impact on customer satisfaction.	Koval et al., 2018; Babbar, 1992;
Poor in-store operational performance (B7)	An in-store operation consists of handling, arranging, ordering, and processing merchandise in the store (Samli et al., 2005). Bouzaabia et al. (2013) contributed potentially to retail in-store logistics to create more value to the customers. They found that in-store operations influence customer satisfaction as well as a retail image too.	Bouzaabia et al., 2013; Samli et al., 2005
Lack of management commitment and support (B8)	*Management commitment and support are important* in the successful adoption and implementation of strategies (Cano et al., 2015). The success of major project implementation completely hinges on top management's strong and sustained commitment (Ifinedo, 2008).	Zhang et al., 2018; Cano et al., 2015; Schultz, 2004; Dong et al., 2009; Ifinedo, 2008; Bingi et al., 1999; Ellram, 1991; Camarinha-Matos and Afsarmanesh, 2007; Westphall et al., 2007

Lack of Corporate Social Responsibility (B9)	CSR leads to more contented customers and can improve connections with customers (Martinez and Rodriguez del Bosque, 2013) and can enhance the market value of the firms (Goyal and Kumar, 2017). European Commission accredited in 2011 and European Competitiveness Report (2008) that CSR is important to the competitiveness of enterprises.	Campbell and Park, 2017; Hasan and Habib, 2017; Hooley et al., 2008; Galbreath, 2009
Lack of collaboration among supply chain partners (B10)	Organizations lack collaboration opportunities in order to build unique value-creation capabilities (Fawcett et al., 2010). Collaboration's main goal is to enhance the competitive advantage of companies (Cao and Zhang, 2011).	kumar et al., 2017; Liao et al., 2017; Ramesh et al., 2010; Greenbaum, 2004; Cao and Zhang, 2011
Unwillingness to share information among supply chain partners (B11)	To get a higher level of sustainable and non-imitable performance, willingness in information sharing is required. If partners cannot share needed information, then opportunities for value creation and benefit will not accomplish (Gorane and Kant, 2015; Fawcett et al., 2009).	Dominguez et al., 2018; Zaheer and Trkman, 2017; Pandey et al., 2010; Gorane and Kant, 2015; Fawcett et al., 2009
Lack of communication (B12)	Organization lack of implementing the CPS without effective communication.	Kim et al., 2018; Van Woensel et al., 2007
Lack of new technology (B13)	Organization lack of new technology to overcome the mismatch among suppliers' technology and to facilitate the customers (Gorane and Kant, 2015).	Gorane and Kant, 2015; Lee et al., 2011; Tomlin, 1991

Lack of technical expertise (B14)	Lack of technical expertise hurdle the implementation of new technology as well as strategy (Garg et al., 2015).	Garg et al., 2015; Ifinedo, 2011; Ghingold and Johnson, 1998
Lack of demand chain practices (B15)	Christopher and Ryals (2014) argued that demand chain practice involves in creation of values (marketing perspective) and delivery of values (Supply chain perspective). Demand chain practice enables retailers to focus on pull thinking at the place of push thinking (Jacobs, 2006).	Aslam et al., 2018; Likoum et al., 2018; Deshmukh and Mohan, 2017; Deshmukh and Mohan, 2016; Christopher and Ryals, 2014; Jacobs, 2006; Foley and Fahy, 2004
Lack of financial resources (B16)	Financial resources bring more flexibility to create new ideas, bring new and well-qualified employees to generate ideas (Hoegl et al., 2008). Therefore, if a firm has much financial resources, it will help the firm participate in innovative activities (Demirkan, 2018) and also help to implement a new strategy.	Mohr and Batsakis, 2018; Hasan and Habib, 2017; Grimmer et al., 2017; Hoegl et al., 2008; Demirkan, 2018;
High cost associated with new strategy (B17)	Differentiation strategy cannot ignore the costs (Govindarajan, 1988). As a result, the top management hesitates to financial support due to the high cost of the system, technology, and strategy.	Govindan et al. 2014

These barriers are further categorized into resources, based on the proposed resource-based theory of Hall (1992, 1993) and Galbreath (2005) and dynamic capabilities (Teece and Leih, 2016). Due to changing customer needs, changing seasonal markets can make apparel retailing a volatile industry. With the rich literature on RBV, Barney et al. (2011) suggested that researchers focus on the resource-based theory (RBT). There are some arguments for the *revitalization or decline* of resource-based theory in the future. Barney et al. (2011) argued that the resource-based theory (RBT) would achieve revitalization and avoid future decline. RBT is not sufficient for the volatile nature (Wu, 2007; 2010) of apparel retailing. Dynamic capability can be best suited for a volatile environment (Wu, 2007; 2010; Teece, 2007). Barriers are categorized based on the RBT (tangible, intangible, and capabilities) and Dynamic Capability, those are as follows:

2.4.1 Tangible resources

It is essential to know the internal barriers to adopting new or modified technology, strategy, and systems. Retailers want to achieve more profit and economic value for their efforts, and lack of financial support and high cost of strategy implementation can cause strategy failure. Based on resource-based theory (RBT), any measurable physical and financial assets can be a tangible resource (Galbreath, 2005; Grant, 1991). From this review and firm background, two barriers are considered tangible barriers from table 2.3: *Lack of financial resources* (B16) and *High cost associated with the new strategy* (B17). The lack of financial resources is the significant factor for failure (Grimmer et al., 2017). Financially strong retailers can better expand into multiple new markets (Mohr and Batsakis, 2018).

2.4.2 Intangible resources

Intangible resources (non-physical or non-financial) are further divided into two categories like assets and capabilities (Galbreath, 2005; Hall, 1992; 1993). Assets are defined as resource endowments that a retail firm has accumulated over time and can be used to achieve a competitive advantage (Foroudi et al., 2017). Lin and Wu (2014) and Grant (1991) suggested implementing competitive strategies; resources play the main potential role where intangible resources are most important for differentiation strategy.

Intangible resources are assets like intellectual property (Hall, 1992), organizational assets (Galbreath, 2005; Fernandez et al., 2000; Barney, 1991), reputational assets (Roberts and Dowling, 2002; Galbreath, 2005), and network (Hall, 1992). When a firm engaged in a differentiation strategy, CSR can be used as a co-specialized asset (Siegel and McWilliams, 2011; Lin et al., 2019). This makes other assets more valuable (Barney et al., 2011; McWilliams and Siegel, 2010) and treat as a reputational asset. Further, McWilliams and Siegel (2010) argued that employees are an essential RBT resource. In apparel retail, employees are directly connected with customers in the store. Knowledge and engagement of employees can affect the customers' buying decisions and firm performance. Organizational culture, organizational structure, human resource management policy, and agreements are the organization's assets (Galbreath, 2005; Xia et al., 2015). Patents, copyrights, registered designs, trademarks (Galbreath, 2005), and held in secret technology (Galbreath, 2005; Schroeder et al., 2002) are the intellectual property assets. There are five organizational culture determinants: strategy, structure, support mechanism, and behaviors that encourage innovation and communication (Inan and Bititci, 2015; Martins and Terblance, 2003). Knowledge is at the center of resource-based theory (Kogut and Zander, 1992; Grant, 1996). Firms' effectiveness is "the degree to which an

organization realizes its goals" (Daft, 1995, p. 98), and it depends on how well managed the knowledge (Zheng et al., 2010). Therefore, clear goals and knowledge about the competitive position can play a major role in implementing the strategy. Further, Corporate social responsibility can help differentiate a business and support implementing a strategy successfully (Campbell and Park, 2017). Hasan and Habib (2017) argued that CSR offers better access to resources and allows for better services. From such theory, nine barriers are related to intangible resources. Those are as follows: Lack of employee engagement (B3), lack of responsiveness (B5), lack of new technology (B13), lack of collaboration among supply chain partners (B10) (relational asset (kumar et al., 2017)), lack of communication (B12), lack of corporate social responsibility (B9) (as reputational assets), unclear organizational objectives (B1) (as schematic knowledge resource (Holsapple and Joshi, 2001)), lack of understanding of competitive positioning benefits (B2) and Unwillingness to share information among supply chain partners (B11) (as network assets).

2.4.3 Capabilities (skills)

Capability is the organizational non-transferable resource due to its high level of causal ambiguity (Galbreath, 2005) that can create, modify and extend the resources in response to a dynamic environment (O'Dwyer and Gilmore, 2018). Teece and Leih (2016) suggested a definition of capability is as follows:

"*A capability is a set of activities the firm performs in a semi-routinised fashion to enable a particular set of tasks to be accomplished in a manner allows—against the opposition of circumstance—products and services to be made and delivered and profits to be generated*."

Galbreath (2005) argued that capabilities enable firms to choose, develop, implement and realize value-creating marketing strategies. A significant difference

between ordinary capability and dynamic capability is that ordinary capability involves doing things right, whereas dynamic capability involves *doing the right things* (Teece and Leih, 2016). From such theory, two barriers are related to ordinary capabilities, and those are as follows: *poor in-store operational performance* (B7) *and Lack of technical expertise* (B14). In-store operation is responsible for improving on-shelf availability that can affect customer satisfaction (Garcia-Acra et al., 2020) and firm performance to help achieve a competitive position.

2.4.4 Dynamic capabilities

The significant difference between capabilities and dynamic capabilities is that ordinary capabilities are related to administrative, operational, or governance functions. In contrast, dynamic capabilities enable the firm to integrate, build and reconfigure internal and external resources to prepare the firm for rapidly changing business environments (Teece and Leih, 2016). Dynamic capabilities mainly focus on processes, positions, and paths (Teece et al., 1997). Teece (2007) argued that if a firm possesses resources and ignores the dynamic capabilities, it can return for a short period of time but not for the long run. Due to uncertain market demand, apparel retailing is volatile in nature. Therefore, RBV cannot handle the uncertainty, and the firm needs to sense and seize the opportunities with dynamic capabilities. Teece (2007) proposed three processes: integration, learning, and reconfiguring, which support sensing, seizing, and managing threads. From such theory, four barriers are related to dynamic capabilities, and those are as follows *Lack of education and training to employee* (B4), *lack of continuous improvement culture* (B6), *lack of demand chain practice* (B15), and *lack of management commitment and support* (B8). Bai and Sarkis (2013) included management commitment and support as a dynamic capability where management seeks to build up internal resources and capabilities. Lin and Wu (2014) included

education and training as learning capabilities under dynamic capabilities. The developmental (or say continuous improvement) culture focuses on growth, adaptability, and transformational change (Howard and Ulferts, 2017).

2.5 Summary of Literature

This chapter is dedicated to the discussion of the theoretical background of this study. Different aspects of literature were analyzed, and research was conducted in a tier-II city of India. The conceptual model of research was presented in figure 1.1.

The literature is divided into three parts: Customer value perceptions and hypothetical relationship with customer satisfaction, strengthening factors of the retailer to fulfill CVPs, and Implementation barrier in light of resource-based-view.

Digitalization is increasing rapidly, and mobile devices with an internet connection are an example, which is responsible for changing shopping behavior and consumer practices (Hagberg, et al., 2016). Apparel retailing is highly affected by digitalization and needs to change the traditional model with a new value-creating model. To earn and maintain the digital world's customers, perceived value can be a crucial factor (Yeh *et al.*, 2020). An extensive literature review reveals that many studies have been made on customer perception, but there is little specific research in evaluating customer value perception for pure-play apparel retailers. Moreover, in-store logistics is a fresh factor that has not been tested before in the Indian apparel retailing context. To the best of the author's knowledge, this study is the first in the Indian context that considers potential perceived factors like in-store logistics and communication as customer value perception. Thus, the first objective is important to investigate CVPs.

For implementing the competitive positioning strategy in apparel retail stores, CVPs are needed. With the help of extensive literature, nine strengthening factors have

been identified. Few studies have been carried out to understand the strengthening factor for strategy implementation. However, strengthening factors have not been discussed based on the above CVPs to the best of the author's knowledge. There is no study reported to identify, classify and analyze the strengthening factors in competitive positioning strategy implementation. No study depicts ISM, MICMAC, and FMICMAC methodology in strengthening factor identification and relationships in the Indian apparel retailing context. Thus, the second objective is needed to understand the supportive actions that the retailer should take to fulfill the CVPs. Further, the combination of outcomes from the first objective and second objective prioritizes the design requirements of the retailer to satisfy the CVPs. Thus, the third objective is vital to assess prioritized design requirements.

In the way of implementation of competitive positioning strategy, it is essential to utilize the available resources. The firm's resource-based view helps identify the key factors that help them implement the CP strategy. If the misutilization of resources occurs in a firm, then these resources become a barrier. In this thesis, the potential barriers are identified from extensive literature and categorized into resources, capabilities, and dynamic capabilities. There is no study reported to identify, classify and analyze the barriers in competitive positioning strategy implementation. No study depicts Grey and DEMATEL methodology in barrier identification and relationships in the Indian apparel retailing context. There is no evidence that apparel retailing-related barriers are classified in resources, capabilities, and dynamic capabilities. Thus, it is required to understand the strengths and weaknesses simultaneously for implementing any strategy (Shibin et al., 2016). Therefore, the fourth objective is essential for this research.

CHAPTER 3

TOOLS, TECHNIQUES, AND METHODOLOGY

In the first chapter, four research objectives have been discussed under section 1.5. For each research objective, there are many methodologies available. This chapter briefly explained the methods that are used to achieve the goals. Further, reasons to select the particular methodologies are discussed for specific objectives.

For assessing the customer value perception and their effect on customer satisfaction, structural equation modeling (SEM) is used. A structural equation model is a method that estimates a series of causal relationships among multiple observed variables, and these relationships are modeled in pictorial form. SEM model is the a priori hypothesis for a set of observed and latent variables. The SEM method aims to find out the a priori model valid rather than suitable (Shah and Goldstein, 2006).

ISM and MICMAC are used to identify the factors that can help a firm achieve a competitive position and establish contextual relationships among these factors. MICMAC uses binary numbers for the relationship, which failed to explain the strength of relationships. Thus, Fuzzy-MICMAC (FMICMAC) is used. However, these methodologies are old but still have the center of focus among researchers due to their validated consistency, fewer expert involvements for decision-making, easy applicability, applicability on any complex problems, etc. Some researches that used ISM methodology from reputed journals are as follows: Li et al. (2019), Sindhwani and Malhotra (2016), Raut et al. (2018a; 2017; 2018b), Dube and Gawande (2016), and Kumar and Dixit (2018).

Quality function deployment is the method that involves planning services to satisfy the customers more efficiently. For this tool, customer requirement is the first

step or, say, driver force. In the manufacturing sector, the customer requirements are fixed and documented. While in the retail industry, it is tough to fix the requirement; therefore, customer value perception is used at the place of the requirement that assessed from the first objective of the research. Further, the design requirements are taken from the second objective of the study. QFD starts with the construction of supertanker cargo ships in the 1960s from Japan and moves to the automotive industry. Further, this tool is adopted by aerospace, defense, education, lifecycle analysis, logistics, software, process engineering, telecommunications, and health care (Bolar et al., 2014). In the retail sector, QFD is adopted by some authors like Simons and Bouwman (2006), Hsu and Lin (2006), and Seker (2019).

To establish the relationship among factors in terms of cause and effect, DEMATEL is used as the method. DEMATEL is used for the objective type of data, but it is popular for subjective data in this decade. The wide acceptability of DEMATEL can be revealed from its reported applications in various fields of decisions such as barriers of smart energy city (Addae et al., 2017), Website parameters (Cebi, 2013), Technology adoption (Lu et al., 2013), Hospital service quality criteria (Shieh et al., 2010). DEMATEL method used to handle and structure the complicated causal relationship model. The science and Human Affairs Program of the Battelle Memorial Institute of Geneva introduced DEMATEL to solve complex problems (Hsu et al., 2013). DEMATEL, in subjective judgment, has much ambiguity. To overcome this problem, the Grey theory is used. Grey theory was proposed by Deng (1982) from a grey set. Grey system consider the condition of fuzziness which give an advantage over fuzzy (Khompatraporn and Somboonwiwat, 2017; Xia et al., 2015; Li et al., 2007). Grey theory is not limited to only engineering problems only it has been used in management, barriers identification in implantation as well as adoption, risk

management, advertisement agencies, project portfolio selection, supplier selection and so forth (Bhattacharyya, 2015; Xia et al., 2015; Rajesh et al., 2014, Thakur and Anbanandam, 2015). The Grey theory method can handle many ambiguities generated from the human decision (Li et al., 2007; Fu et al., 2001). Grey's theory can easily be used with any decision-making process to improve the judgments (Tseng, 2009). Grey numbers are usually pigeonholed as numbers with incomplete information. Grey numbers can convert into crisp numbers with the modified CFCS (converting fuzzy values into crisp scores) method, integrating a three-step procedure (Fu et al., 2012). DEMATEL allows the researcher to assign the weight to the experts involved in the decision-making.

3.1 Structural equation modeling

Mehrotra et al. (2017) define Structural equation modeling (SEM) as "a procedure for estimating a series of dependence relationships among a set of concepts or constructs represented by multiple measured variables and incorporated into an integrated model". Structural equation modeling (SEM) is the combination of multiple regression and factor analysis. It takes a confirmatory approach to analyze the structural theory (Byrene, 2010). This theory is structured in pictorial form with observed variables, latent variables, and hypothesis relations. The relations are expressed in series of structural equations. Further, the structural equation uses parameters to analyze the observed variables and latent variables (Jöreskog and Sörbom 1993).

3.1.1 Terms involved in the pictorial presentation of SEM

Figure 3.1 shows the following terms that are involved in the graphical representation of SEM:

- **Observed variables**: These variables are directly asked the respondents. Observed variables have other names like statements and items.

- **Latent variables**: These variables are surmised indirectly. Latent variables have other names like construct and factor. These variables are unobservable and represented by multiple items.
- **Endogenous variables**: Endo is a Greek word that means 'in'. Thus, the variables that contain an arrow that heads towards them are known as endogenous variables or, say, a variable caused by other variables.
- **Exogenous variables**: Exo is a Greek word that means 'out'. Thus, the variables that contain an arrow which heads going outside from them is known as exogenous variable or say a variable that is not caused by other variables.
- **Disturbance**: it is also known as error terms or residual. It is treated like a latent variable and is associated with endogenous variables as an unspecified cause of effect variable.
- **Dependence relationship:** A regression type of relationship represented by a straight arrow-headed from independent construct towards dependent construct.
- **Correlation relationship:** It is a relationship among exogenous constructs. The theory speculates that there is no dependent relationship. The relationship among constructs shows by the two-headed curved arrow.
- **Path diagram:** A graphical representation of dependence and correlation relationship among construct.
- **Structural equation model:** It is a combination of factor analysis and multiple regressions. It examines the series of dependent relationships among the observed variables and constructs as well as between other constructs.

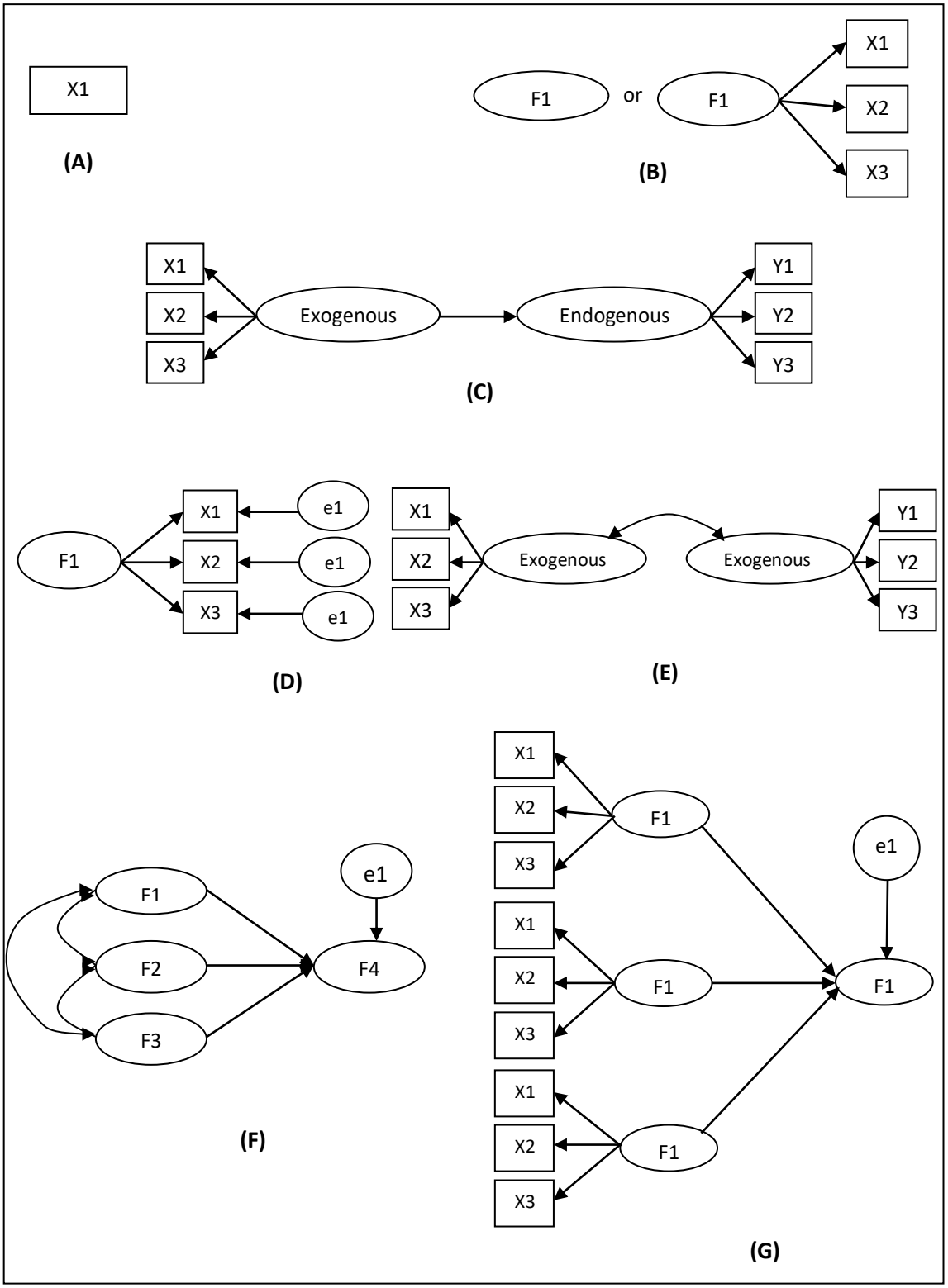


Figure 3.1: (A) shows the observed variable, (B) indicates the latent variable, (C) shows the exogenous, endogenous variable and dependence relationship, (D) here, e1, e2, and e3 shows the disturbance/error, (E) correlation relationship, (F) path diagram and (G) shows the structural equation model.

3.1.2 Steps involved in SEM

There are few steps involved in the SEM process (as shown in Figure 3.2). These steps

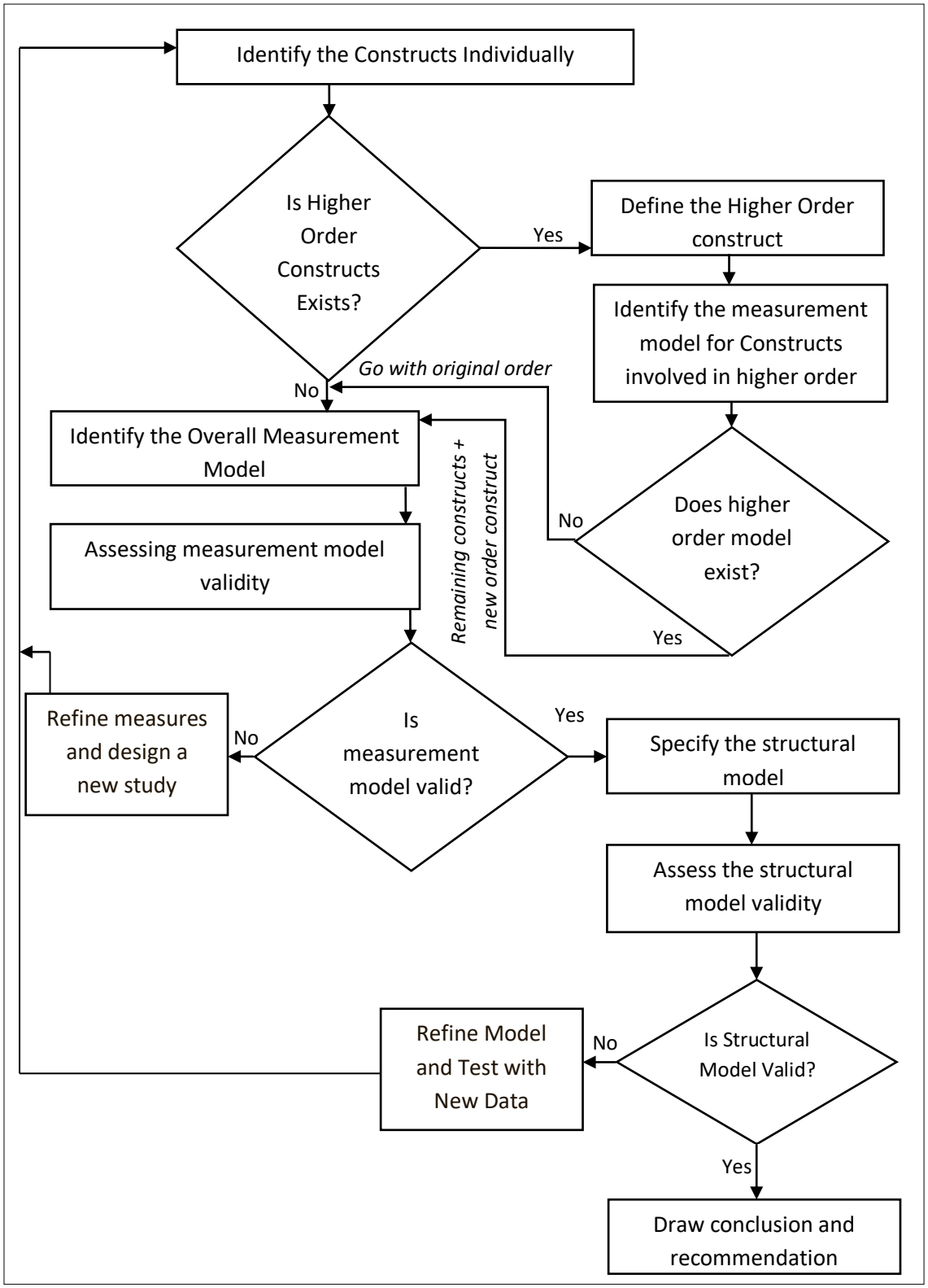


Figure 3.2 The process of structural equation model

are: (1) Identify the Constructs Individually, (2) Define higher-order construct if higher-order construct exists and find the measurement model for factors involved in the higher-order construct, (3) Identify the Overall Measurement Model, (4) Assessing overall measurement model validity, (5) if measurement model valid then specify the structural model, (6) Assess the structural model validity and (7) if structural model valid then draw conclusion and recommendations.

3.1.2.1 Identify the constructs Individually

This step starts with an excellent theoretical understanding of the constructs involved. Further, the scale type and items are selected from the literature that performed well or developed new scale items if rich history is not available. Before going to the next step, it is essential to test the validity issues like content validity and construct validity. Content validity is validated by research literature and expert opinion. In contrast, construct validity is checked by convergent validity (composite reliability (CR) and average variance extracted (AVE)) and discriminant validity.

3.1.2.2 Check higher-order constructs

If covariates of all measurable items are explained at the first level or layer construct, it is known as the first order construct. In second-order constructs, two or more first-order constructs are treated as indicators or measurable items. In a third-order construct, two or more second-order constructs are treated as measured or observed variables.

To check the higher-order constructs, the defined initial constructs (i.e., first-order constructs for second-order construct) should be theoretically related to higher-order constructs. If the assumed higher-order (e.g., most common second-order) model is not reasonable in the measurement model, the first-order model is preferred. If the model is reasonable, then higher-order constructs and the remaining constructs will go for the

overall measurement model. The first-order, second-order, and third-order constructs are given in figure 3.3.

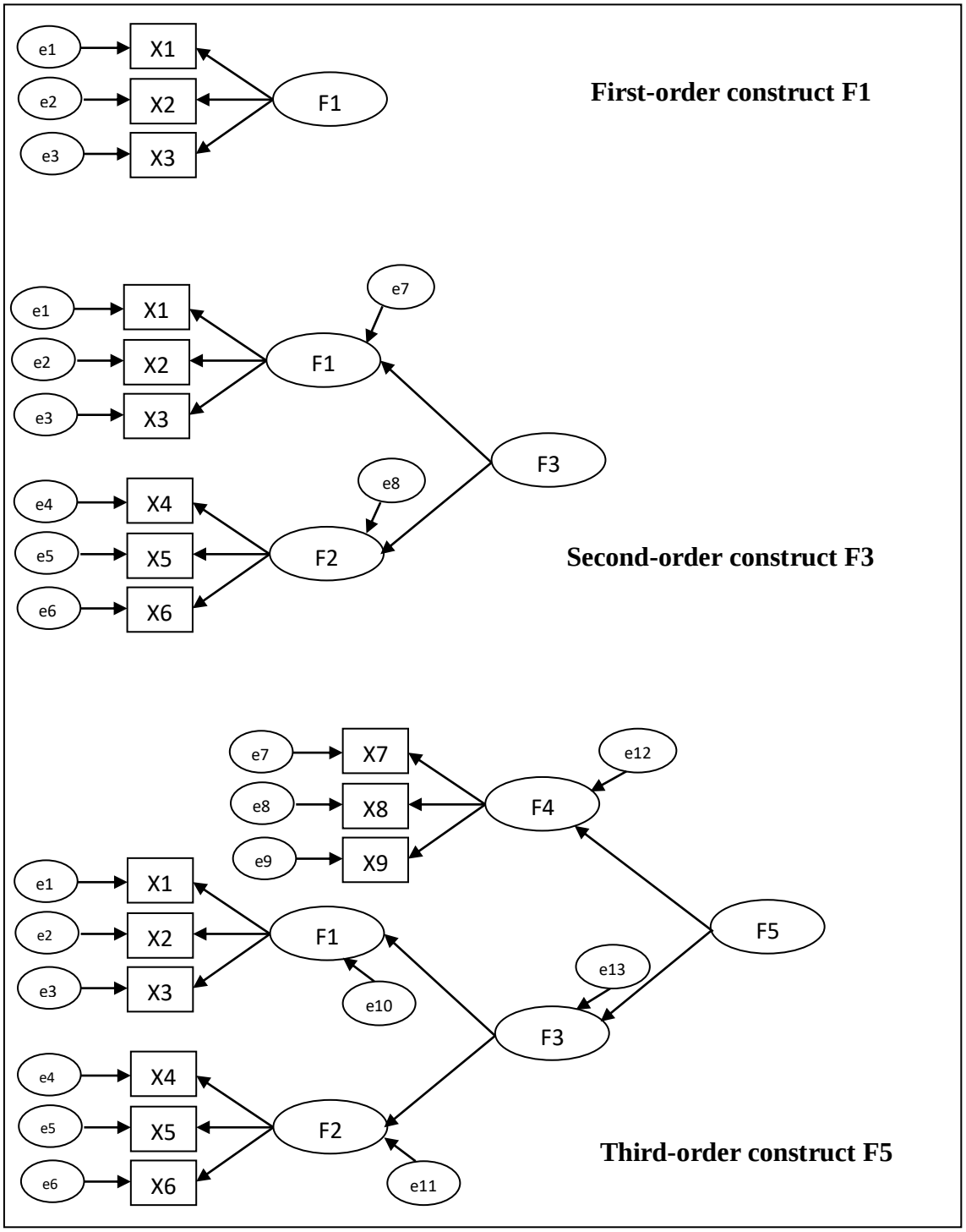


Figure 3.3: Different order constructs

3.1.2.3 Identify the Overall Measurement Model

Once the constructs and order have been defined, and then move to develop and specify the overall measurement model. This model is represented with a diagram (Figure 3.4).

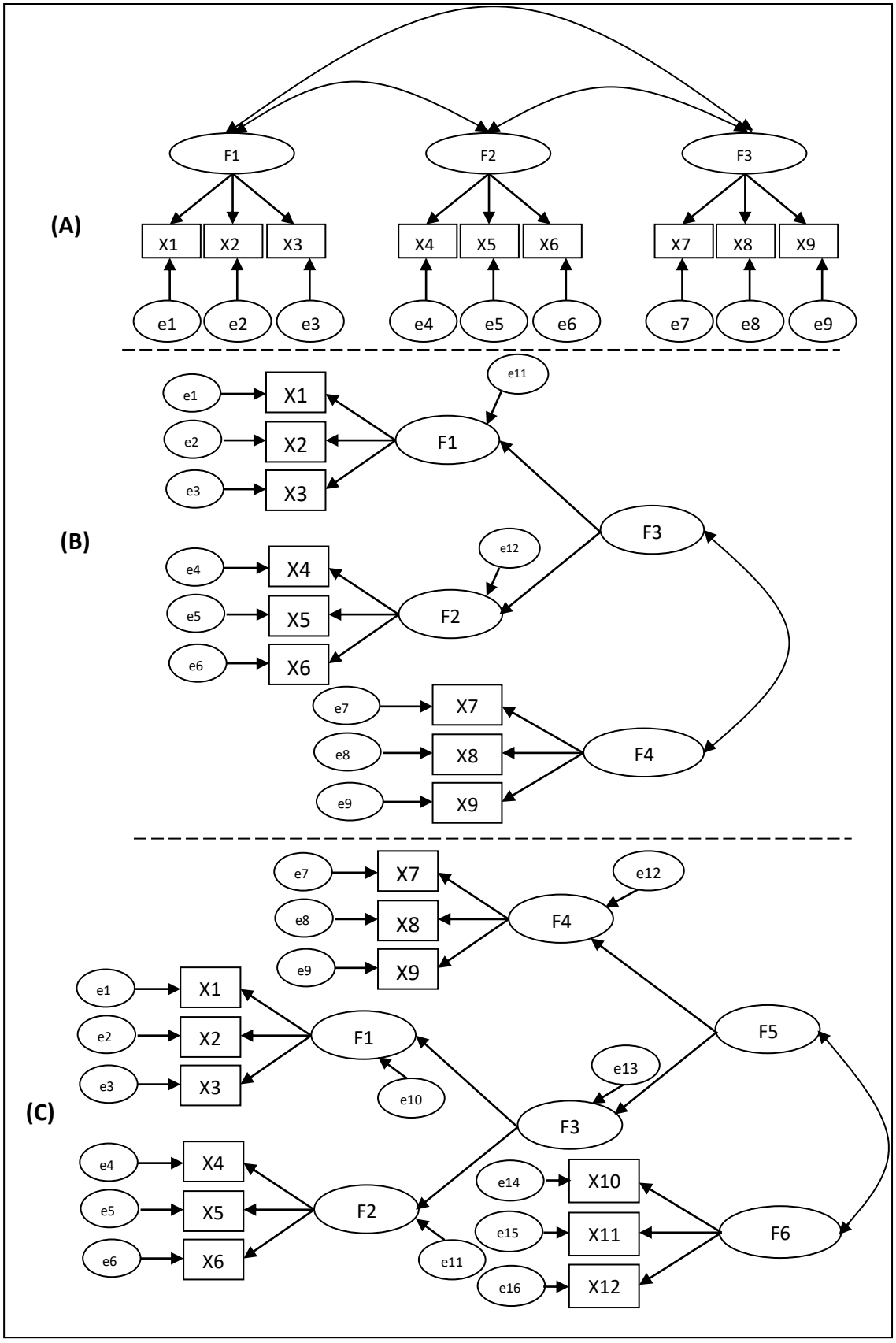


Figure 3.4: Measurement models: (A) simple (B) Second-order model and (C) Third-order model

3.1.2.4 Assessing measurement model validity

In the early measurement model fit, chi-square (χ^2) was the only indicator for model validity. With the extensive data, χ^2 comes under satisfaction. Thus, to overcome this issue, some more fit indices were needed. These fit indices are extracted from χ^2 and divided into the goodness of fit and badness of fit. Further goodness of fit is categorized into three categories: absolute fit indices, incremental fit indices, and parsimony fit indices (figure 3.5; Source: Malhotra et al., 2017).

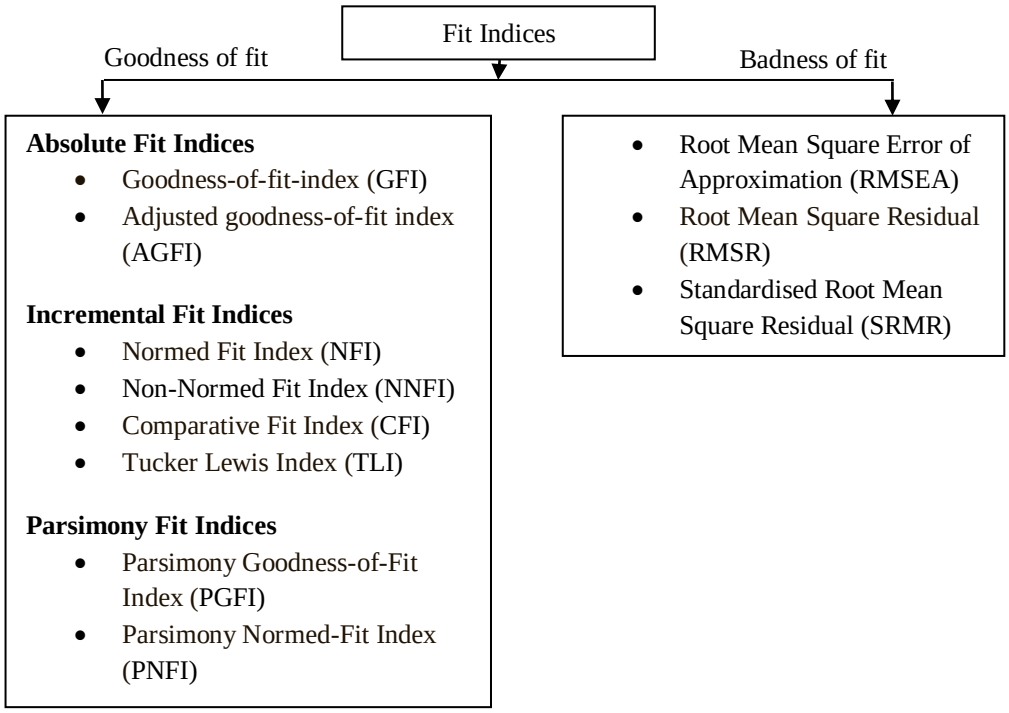


Figure 3.5: Classification of Fit indices

3.1.2.5 Specify the structural model

After the successful establishment of the measurement model, the next step is to specify the structural model. In this step, the relationship from one construct to another are assigning based on the theoretical model. The structural model mainly focuses on the dependence relationship that is hypothesized. This hypothesized relation is represented with the help of a single-headed arrow from one construct to another. Figure 3.6 shows the specification of the structural model.

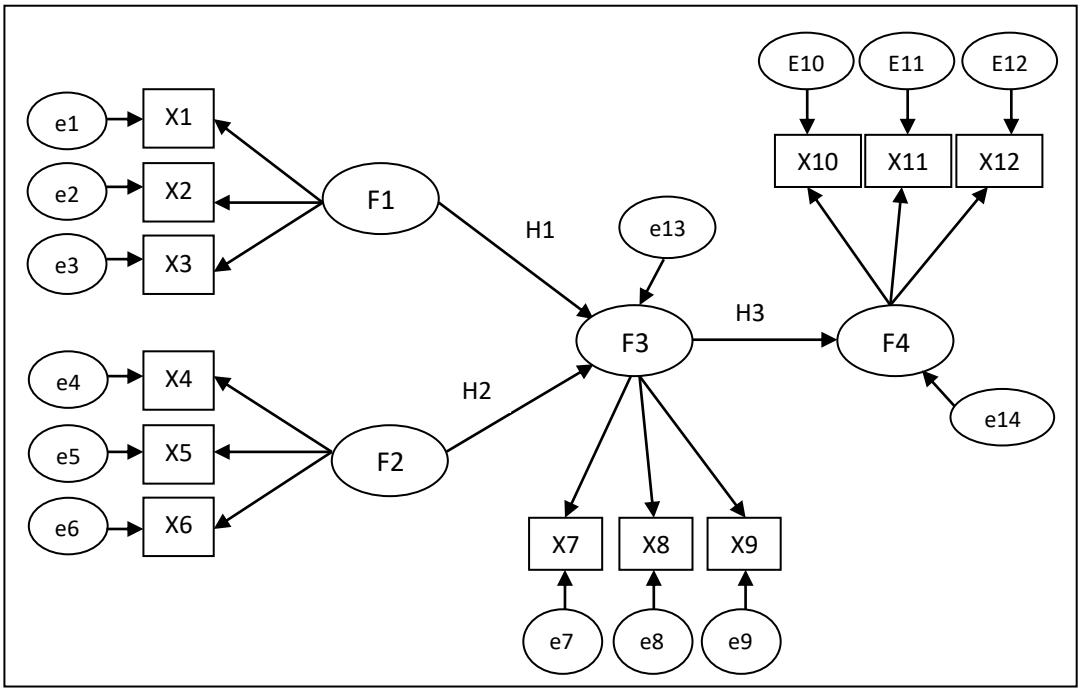


Figure 3.6: Structural Equation Model

3.1.2.6 Assess the structural model validity

After the specification of the structural model, it is required to test the model's validity and hypothesized relationships (e.g., H1, H2, and H3 in figure 3.6). Before reaching this step, the measurement model and its validity should be passing. The structural model validity is different from the measurement model in two ways, as Hair et al. (2014) suggested. First, compare the proposed model with an alternative or competing model. Second, test the hypothesized relationships that came from empirical evidence.

3.2 Interpretive structural modeling (ISM)

John Nelson Warfield proposed the ISM in 1974. ISM enables a group of experts (Warfield, 1974) and individuals (Ravi and Shankar 2005, Faisal et al. 2007, Alawamleh and Popplewell, 2011) to solve the complex problem with some basic concepts of graph theory. ISM is a methodology involved in identifying items and summarizing their relationship (Mandal and Deshmukh 1994) for an issue. It is a structural model to identify the items and define relationships among items for unclear or poorly limpid mental models and visualize it in a hierarchical model. ISM is interpretive as it depends on experts' judgment to establish the relationship between

variables (Patel et al., 2014). These relationships create structures extracted from a complex set of variables. The structure form from the relationship portrays in the digraph. The steps involved in ISM have shown in figure 3.7.

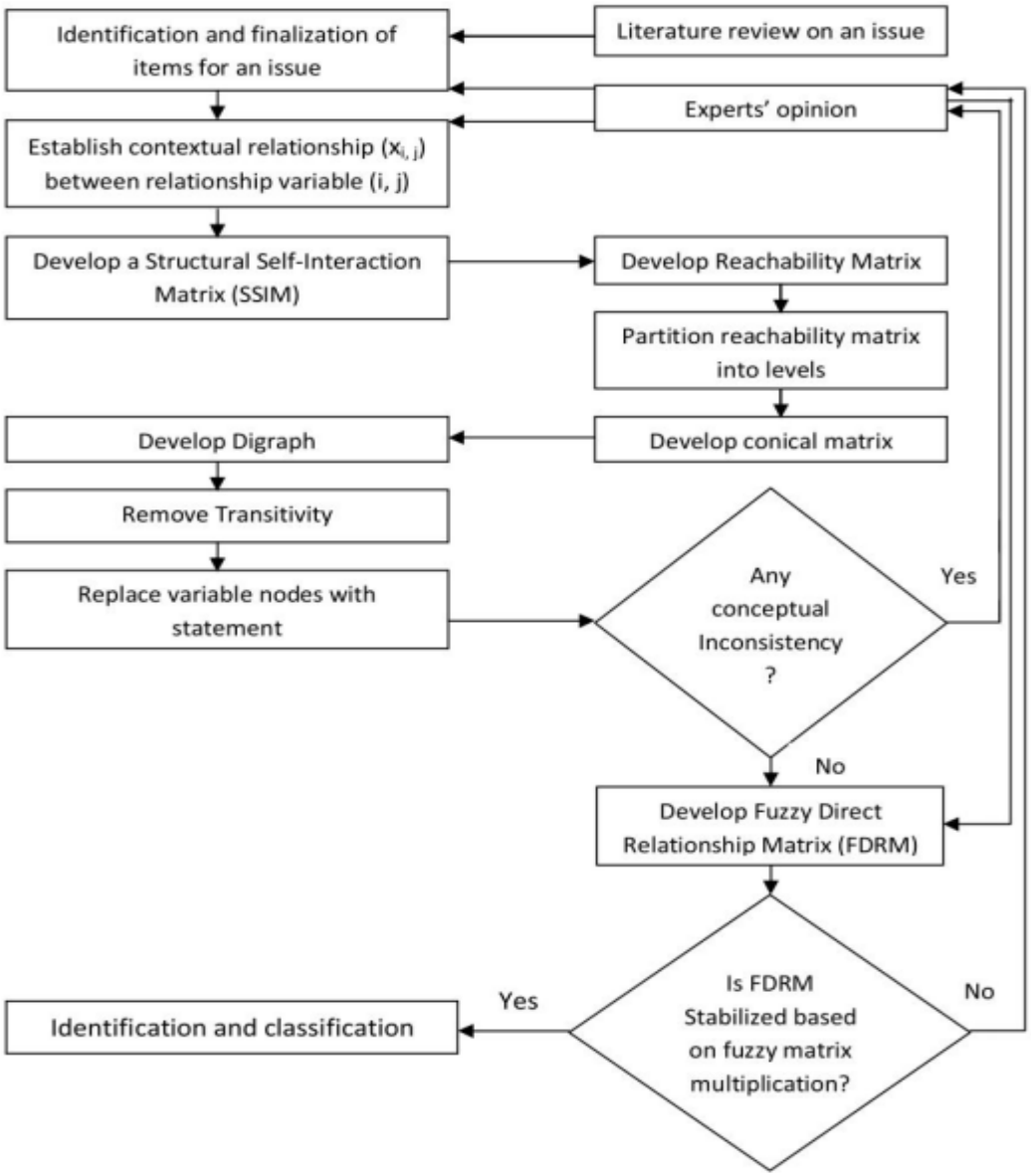


Figure 3.7: Flow chart showing ISM methodology for identifying SFs

3.2.1 Identification and finalization of items

For an issue, identification of factors and finalization of potential factors is the first step in ISM methodology. Identification of factors can be extracted from the extensive literature survey related to the issue. After identifying a list of factors, it is essential to

finalize the crucial factors for a particular issue. Here, a group of experts is involved in finalizing the factors through different group problem-solving techniques like Brainstorming, the Delphi method, and so on.

3.2.2 Establish the contextual relationship and develop SSIM

A semi-structured questionnaire has been developed using finalized factors from the previous section. If N factors finalize from experts' suggestions, the total possible relationships will be N*(N-1)/2. For example, if the total factor is five, then possible relationships will be 10 (Table 3.1). ISM helps groups or individuals to structure their knowledge and model interrelationships to enhance the ability to understand complexity.

Table 3.1: Possible relationships for 5 factors

Factors	Factor5	Factor4	Factor3	Factor2	Factor1
Factor1	V	X	V	A	
Factor2	V	V	A		
Factor3	V	O			
Factor4	V				
Factor5					

To develop structural self-interaction matrix (SSIM), the questionnaire has been presented before the experts. Experts have compared each row with each column and opt one value from the set (V, A, X, or O). In this session, the relationship between two factors (i, j) denoted by the four symbols are as follows:

- V: i influences j (direction i → j)
- A: j influences i (direction j → i)
- X: i and j influences each other (direction i ←→ j)
- O: i and j have no relation

3.2.3 Develop the reachability matrix

To get the initial reachability matrix, substituting the symbols V, A, X, O into the binary digit 0 and 1. The conversion from symbol to binary digit is based on some rules, which are given below:

- If the (i, j) symbol in the SSIM is V, then the (i, j) value in the reachability matrix becomes 1, and the (j, i) value becomes 0.
- If the (i, j) symbol in the SSIM is A, then the (i, j) value in the reachability matrix becomes 0, and the (j, i) value becomes 1.
- If the (i, j) symbol in the SSIM is X, then the (i, j) value in the reachability matrix becomes 1, and the (j, i) value also becomes 1.
- If the (i, j) symbol in the SSIM is O, then the (i, j) value in the reachability matrix becomes 0, and the (j, i) value also becomes 0.

Based on the above rule, the initial reachability matrix has been formed. In the relationship matrix, one factor 'A' leads to factor 'B', and factor 'B' leads to factor 'C', then factor 'A' leads to factor 'C'. This relation is known as transitivity. Therefore, it is essential to identify all possible transitivity from the initial reachability matrix. To achieve the transitivity from the initial matrix, a method is used that was proposed by Malone (1975) and explained again by Ojha et al. (2014). The steps involved in this method are as follows:

- **Step 1**: Initial reachability matrix multiplied by itself.
- **Step 2**: Replace values that are greater than one with one from the formed matrix.
- **Step 3**: Check the similarity from the obtained matrix of step 2 with the previous matrix. If the obtained matrix is the same as the previous matrix, the transitivity

matrix is achieved, which is known as the final reachability matrix. If the obtained matrix is not the same as the previous matrix, repeat the above processes until transitivity is achieved.

3.2.4 Partition the reachability matrix into levels

The hierarchical structure formation starts with this section. The obtained final reachability matrix from the previous section is used partitioned the factors into different levels. For this, the reachability set and antecedent set should be extracted from the final reachability matrix. The reachability set for each factor consists of the factor itself and other factors on which the particular factor impacted. In short, all row items for particular factors in the final reachability matrix are the reachability set. The antecedent set for each factor consists of the factor itself and other factors that impact a particular factor. In short, all column items for particular factors in the final reachability matrix are the antecedent set.

Further, the interaction set for each factor is formed from the reachability set and antecedent set. If the reachability set and intersection set are the same for particular factors, then the level number is assigned to remove the factor and number from further processes. This process is repeated till all levels are formed. The first level factor is at the top of the hierarchical model that cannot help achieve other factors. These identified levels help to build the hierarchical model. For better understanding, the application of this section can be seen in Chapter 5.

3.2.5 Developing the conical matrix

This matrix is the step just before the formation of a digraph (Poduval et al., 2015). The arrangement of factors in this matrix is as follows: the factors that have the most zero in

rows are put at the top of the matrix, whereas the factors that have the most unitary in rows are put at the down of the matrix.

3.2.6 Formation of Model

ISM model building starts from the canonical matrix that helps in the generation of a digraph. In the digraph, the relationship shows by an arrow from i to j or j to i (Hasan et al., 2009). Based on the discussion, the initial digraph has direct and indirect relations among factors. For example, if factor 'A' is related to factor 'B' and factor 'B' related to factor 'C', then factor 'A' is related to factor 'C'. A to B and B to C directly relate in this relation, but A to C is an indirect relation and also known as transitivity. For the digraph, set the factors according to their levels (that found from section 3.2.4) and establish the relation with the conical matrix's help. After removing the transitivity and replace the node with statements, the final ISM model has been formed. The developed model should be checked for conceptual inconsistency and necessary modifications.

3.2.7 MICMAC analysis

The MICMAC is stands for Matrice d'Impacts Croises Multiplication Applique' an Classment (Yadav and Barve, 2015). The final reachability matrix is used for the MICMAC analysis, and driving and dependence power is analyzed. The sum of row elements is known as the driving power of a particular factor. In contrast, the sum of column elements is known as the dependence power of a particular factor. The factors are divided into autonomous, dependent, linkage, and driver (or independent) based on driving and dependence power. Figure 3.8 shows that the autonomous cluster has weak driving and weak, dependent power, the dependent cluster has weak driving and strong dependent power, the linkage cluster has strong driving power and strong dependent power, and the independent cluster has strong driving power and weak, dependent power.

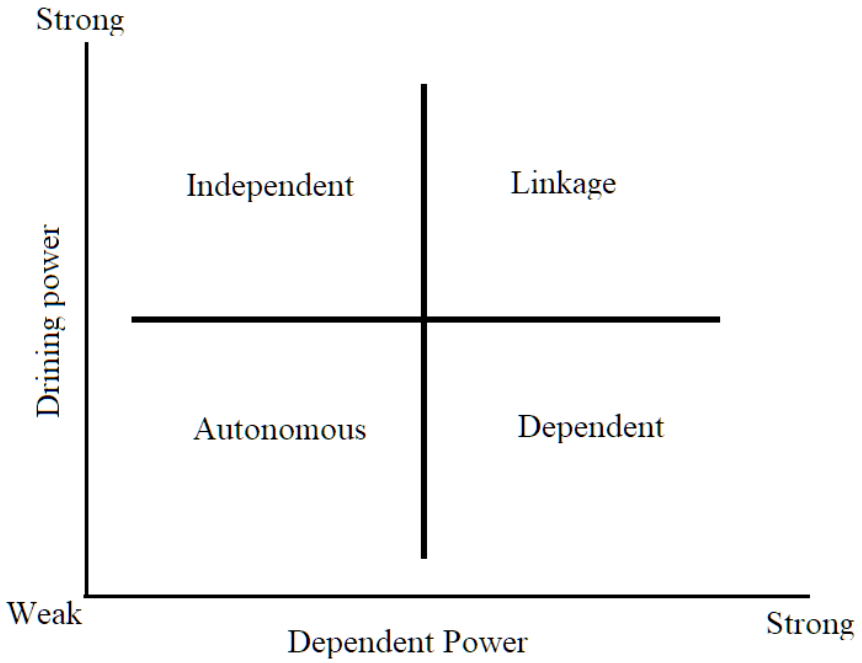


Figure 3.8: Clusters based on driving and dependent power

3.2.8 FMICMAC analysis

The FMICMAC analysis stands for Fuzzy Matrice d'Impacts Croises Multiplication Applique' an Classment. The MICMAC analysis uses binary numbers (0 and 1) for the relationships that cannot show the relationship's strength (Gorane and kant, 2015). Therefore, factors can be divided into clusters, as mentioned earlier, based on binary relationships. There is no scope for discussion about the strength of the relationship between two variables in terms of weak, weak, no relation, strong, and very strong. To overcome this problem, the FMICMAC is used (Dubey and Ali, 2014). The result can be better if the strength of the relationship was considered. Another reason to use the FMICMAC is that MICMAC uses the only binary relationship between identified strengthening factors, whereas the Fuzzy-MICMAC approach provides sensitive analysis related to driving and dependence behavior of strengthening factors (Gorane and kant, 2015). In the FMICMAC, several steps are as follows. In the first step, a direct relationship matrix (DRM) should be obtained by ignoring the transitivity and converted all diagonal unitary numbers into zero. Further, experts should be contacted again to get

the strength of the relationship among factors. The obtained matrix is known as the fuzzy direct relationship matrix.

Zimmermann (1991) stated the three types of fuzzy composition to determine the fuzzy indirect relationship's strength with element i to j: max-min, max-average, and max-product. For this research, the max-min is most suitable since the fuzzy relationships represent the relationship's strength (Pfohl et al., 2011). To obtain the indirect relationships, the FDM was modified based on the computational steps given in Yenradee and Dangton (2000). In the n × n matrix, the convergence of matrix has obtained through the fuzzy multiplication as stated by (Zadeh, 1965). Matrix multiplication will continue until the stabilization of hierarchies of driver and dependence power. According to fuzzy set theory, the resultant matrix from the multiplication of two fuzzy matrices is also a fuzzy matrix.

$$\mu_c = \max [\min \{\mu_a, \mu_b\}] \quad \text{... 3.1}$$

Where, $\mu_a = [a_{ik}]$ and $\mu_b = [b_{kj}]$

3.3 Quality function deployment

QFD took VoC and is deployed throughout all-new service development stages (Griffin & Hauser, 1993). Shigeru Mizuno and Yoji Akao instigated the QFD in the 1960s, and QFD applied first in 1972 at Mitsubishi Heavy Industries Limited in the Kobe Shipyard, Japan. QFD is a powerful technique to satisfy customers in a more significant way (Cherif et al., 2010). QFD was founded as a TQM tool to develop a product but had significant support for the service, too (Debata, 2012).

QFD can apply to any planning process (Cohen, 1995). Cristiano et al. (2001) surveyed 400 companies in America and Japan and reported that QFD could minimize the initial internal problems. DiMingo (1988) suggested two types of positioning:

market positioning and psychological positioning. In market positioning, the firm controls the processes and activities to achieve the marketing position or, say; this positioning is related to firms' oriented outcome. In psychological positioning, the firm tries to create perceptual distinction in the customers' minds. For the service-centric firms, there are limited researches available. Day (2006) stated that service-centric firms could compete based on relationship, performance, and price rather than '4P'. Based on DiMingo (1988), Day (2006), and Amonini et al. (2010) theory, here, an effort was made to combine the customers' perspective and firms' design requirements with satisfying customers and to position the stores in the customers' mind. House of quality (HOQ) framework use here as the most recognized form of QFD.

A typical HOQ has six main elements, as shown in figure 3.9. Structured and systematic way of transformation of the customers' requirement into prioritizing functional design requirements make HOQ is an integral part of QFD. The presentation way of HOQ can be different in various presentations (Griffin & Hauser, 1993; Cohen, 1995; Cherif et al., 2010).

The six main elements are customer requirements, design requirements, the relationship between customer requirements and design requirements, planning matrix, design requirements correlation matrix, and design matrix. Some authors use the customer requirements correlation matrix (Debata et al., 2012) as the seventh part of QFD. All seven parts are explained below:

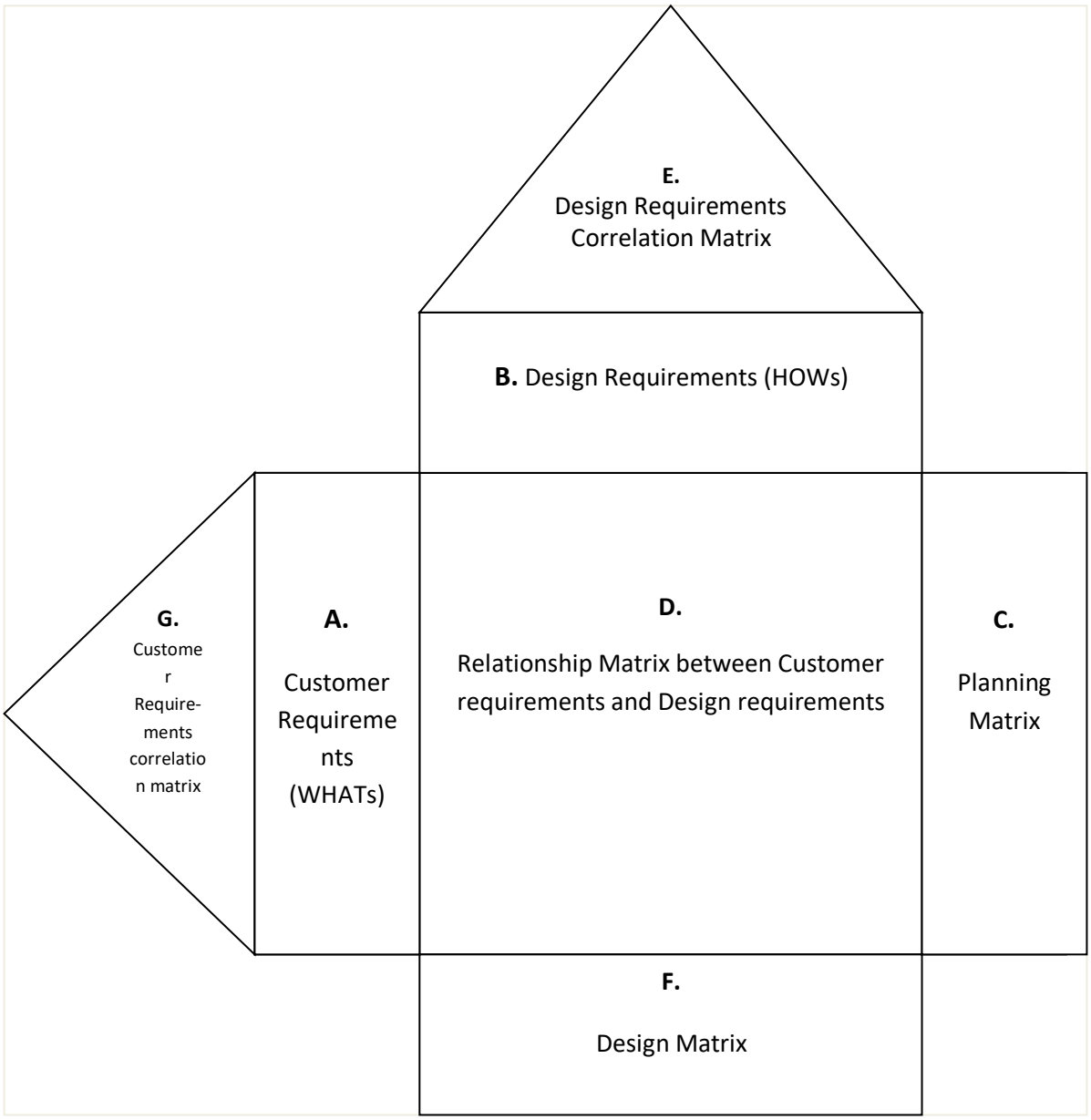


Figure 3.9: House of quality: Framework

- *Customer requirements (WHATs)*: QFD is a customer-centric tool and starts with customers. Customers are of three types: Internal (Shareholders, managers, and employees), Intermediate (Wholesale people and retailers), and Ultimate (service recipients, purchasers) (Chan et al., 2002). Generally, the ultimate customer can be the main focus of the survey. After customer identification next step is to find their list of requirements with the help of various methods. Here, the survey method is

used to collect the list of requirements. This section also requires the relative importance of customer requirements (CRs).

- *The relative importance of the customer requirements*: Collected data from customer survey usually contain simultaneous requirements; they must be included relative importance of requirements.

- *Design requirements (HOWs)*: This section deals with the list of design requirements gathered from the experts. A structured set is formed to fulfill the customer requirements with relevant and measurable design requirements.

- *Relationship matrix between WHATs and HOWs*: The purpose of QFD is to determine the degree of relationship between customer requirements and design requirements. It is very tough to trace the relationship due to the reason of multiple dependencies on design requirements for each customer requirements. The symbolic scale has been used to fill this portion.

- *Inner dependence among the Customer requirements*: Customer requirements have inner dependence and can support each other. These relations can be identified through the inner dependence triangular matrix.

- *Interrelationship among design requirements*: The triangular matrix on the top of HOQ shows the design requirements' relationship. Here symbols are used to show the strength of interrelationships; for example:

    - A solid dot (●) represents a strong relationship.
    - A theta (Θ) represents a moderate relationship.
    - A hallow dot (○) represents a weak relationship.
    - A triangle (Δ) represents a very weak relationship.

- *Overall priorities of design requirements and additional goals (Design Matrix)*: The results obtained from the preceding steps can be calculated here to find the final rank of HOWs. This is also known as design requirement ratings.

3.4 Grey-DEMATEL

ISM and DEMATEL are methods that can solve complex problems. Both have several similarities like cause and effect relationship among the factors (Chauhan et al., 2018) involved in the problem. In ISM, the relationship is shown by '0' or '1', and it does not allow the weighting of experts' values. Therefore, some authors used fuzzy ISM to overcome this drawback in their sensitivity analysis (Gorane et al., 2015). Now, again a group of researchers opposes the fuzzy ISM. According to them, if ISM implemented successfully, then what is the use of fuzzy? Many authors used the fuzzy ISM in their study and used the questionnaire method at the place of brainstorming. It adds strength to the ISM. If the ISM is implemented via brainstorming, then the use of fuzzy ISM cannot have much importance, whereas if the questionnaire method is used then to overcome the vagueness in decisions, the fuzzy IMS should be used as sensitivity analysis.

In the decision-making, the Grey theory and DEMATEL method used to solve the complex problem. Grey theory was proposed by Deng (1982) from a grey set. Grey system consider the condition of fuzziness which give an advantage over fuzzy (Khompatraporn and Somboonwiwat, 2017; Xia et al., 2015; Li et al., 2007). Grey theory is not limited to only engineering problems only it has been used in management, barriers identification in implantation as well as adoption, risk management, advertisement agencies, project portfolio selection, supplier selection and so forth (Bhattacharyya, 2015; Xia et al., 2015; Rajesh et al., 2014, Thakur and Anbanandam, 2015). The Grey theory method can handle many ambiguities generated from human

decisions (Li et al., 2007; Fu et al., 2001). Grey's theory can easily be used with any decision-making process to improve the judgments (Tseng, 2009). Grey numbers are usually pigeonholed as numbers with incomplete information. Grey numbers can convert into crisp numbers with the modified CFCS (converting fuzzy values into crisp scores) method, integrating a three-step procedure (Fu et al., 2012). DEMATEL allows the researcher to assign the weight to the experts involved in the decision-making.

Wide acceptability of DEMATEL can be revealed from its reported applications in various fields of decisions such as barriers of smart energy city (Addae et al., 2017), Website parameters (Cebi, 2013), Technology adoption (Lu et al., 2013), Hospital service quality criteria (Shieh et al., 2010). DEMATEL method used to handle and structure the complicated causal relationship model. The science and Human Affairs Program of the Battelle Memorial Institute of Geneva introduced DEMATEL to solve complex problems (Hsu et al., 2013). DEMATEL is a structural modeling method that tries to determine interdependence amongst a system's elements through a causal diagram (Wu et al., 2010; Tseng, 2009; Kim, 2006). There are several steps to solve the complex problem through the Grey-DEMATEL method. Figure 3.10 shows the flow diagram of the Grey-DEMATEL approach. The steps involved in the Grey theory are the identification of initial relation matrices, finding of Grey relation matrices, average Grey relation matrix, and find the crisp relation matrix from average Grey matrix. The steps involved in the DEMATEL method are a calculation of normalized direct, crisp relation matrix, compute the total relation matrix and obtain the cause and effect parameter. Here, the factors will identify from the literature and with the help of experts' opinions. The systematic procedure of Grey-DEMATEL is as follows.

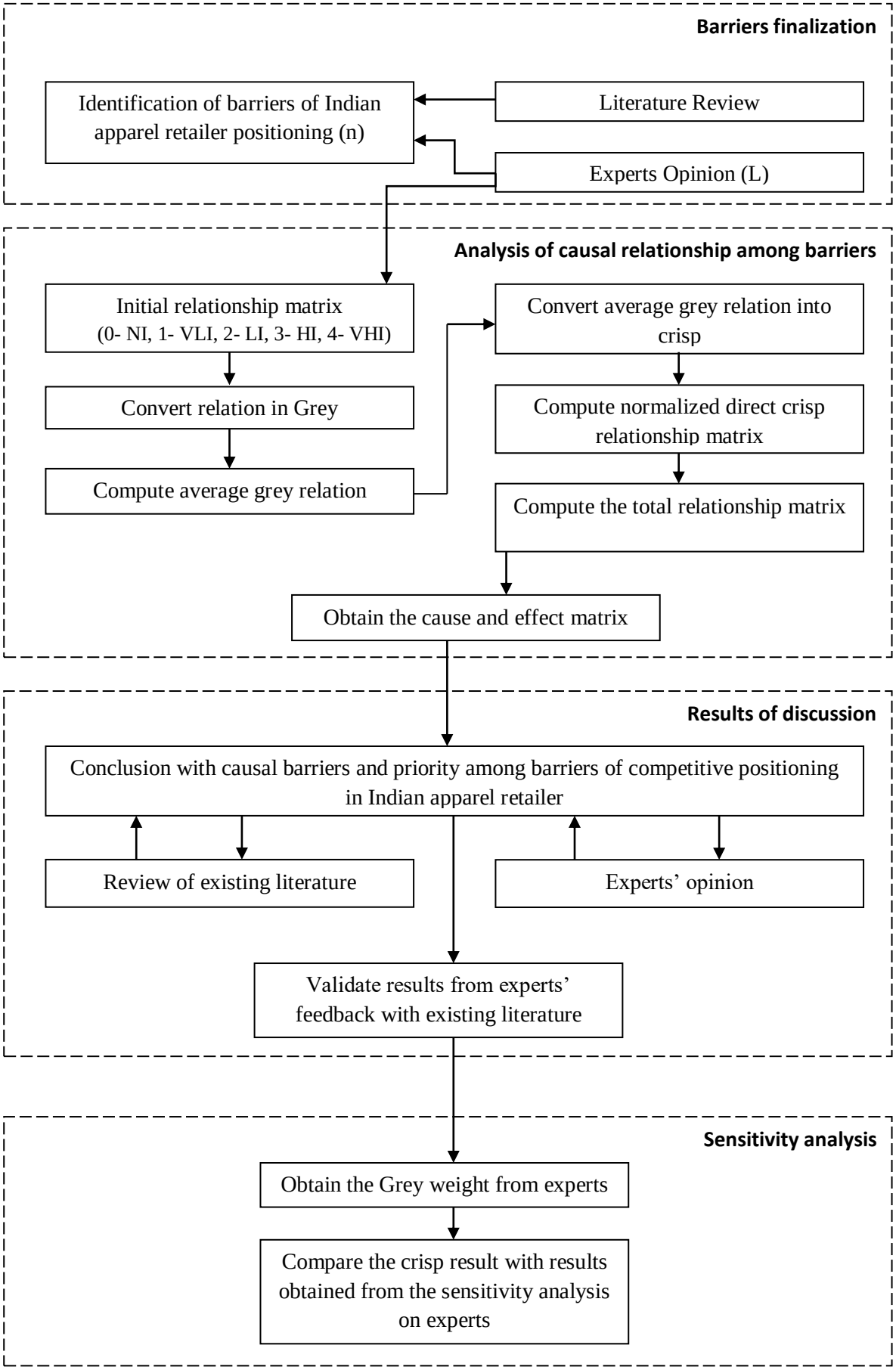


Figure 3.10: Flow chart for the Grey-DEMATEL methodology

3.4.1 Initial Relationship matrix

Total *L* respondents (Experts) have chosen *N* barriers of competitive retail position. Each respondent *K* participated in evaluating the direct influence of barriers *i* over barriers *j*. Therefore, *L* initial relation matrices have been established. The evaluation is based on a scale varying from zero to four. Scale with its linguistic term and associated Grey values will be available in chapter 7.

3.4.2 Conversion of initial relationship matrix in Grey relationship matrix

The initial relationship matrix contains the integer values that will convert into Grey relationship matrix using the Grey values. Grey scales have an upper and a lower range of values (Deng, 1982, 1989). i. e.

$$\otimes X_{ij}^{K} = \left(\underline{X}_{ij}^{K}, \overline{X}_{ij}^{K} \right) \quad \ldots (3.2)$$

Where, $\otimes X_{ij}^{K}$ shows the grey relation matrix for each expert k individually, $\underline{X}_{ij}^{K}$ shows the lower range of values for barrier i over j, $1 \leq K \leq L$; $1 \leq i \leq N$; $1 \leq j \leq N$.

The initial relationship values were converted into the Grey values with the help of Table 3.2. Therefore, the modified relationship matrices i.e. $\left[\otimes X_{ij}^{1}\right], \left[\otimes X_{ij}^{2}\right], \left[\otimes X_{ij}^{3}\right], \ldots \ldots \ldots \left[\otimes X_{ij}^{L}\right]$ have obtained.

3.4.3 Computation of average Grey relationship matrix

The average Grey relation matrix (equal weight for each expert) $\left[\otimes \widetilde{X}_{ij}\right]$ obtained through the equation (Kose et al., 2013; Liu et al., 2012; Rajesh and Ravi, 2015) that has given below.

$$\otimes \widetilde{X}_{ij} = \left(\frac{\Sigma_K \underline{X}_{ij}^{K}}{L}, \frac{\Sigma_K \overline{X}_{ij}^{K}}{L} \right) = \left(\underline{\otimes} \widetilde{X}_{ij}, \overline{\otimes} \widetilde{X}_{ij} \right) \quad \ldots (3.3)$$

Where, $\otimes\widetilde{X}_{ij}$ stands for average grey relation value for barrier i over j and K is range from 1 to L (Number of experts).

The weighted average Grey relation matrix $\left[\otimes_w \widetilde{X}_{ij}\right]$ (different weight assigned for each expert based on their experience and expertise) obtained through the equation that has given below

$$\otimes_w \widetilde{X}_{ij} = \left(\frac{\sum_K W^K \underline{X}_{ij}^K}{\sum_K W^K}, \frac{\sum_K W^K \overline{X}_{ij}^K}{\sum_K W^K}\right) = \left(\underline{\otimes_w} \widetilde{X}_{ij}, \overline{\otimes_w} \widetilde{X}_{ij}\right) \quad \text{.... (3.4)}$$

Where, $\otimes_w \widetilde{X}_{ij}$ stands for weighted average grey relation value for barrier i over barrier j and W^K is the weight assigned for each expert k. There is no need for any modification in the case of the weighted average grey relation matrix in further steps.

3.4.4 Conversion of average Grey relation matrix into the crisp relation matrix

This is the three steps procedure using the CFCS method (Arikan et al., 2013, Rajesh and Ravi, 2015).

(i) Grey value normalization

Here, the normalization of the Grey value for the upper range and lower range will be found with the given formula.

$$\underline{\otimes}\dot{X}_{ij} = \left(\underline{\otimes}\widetilde{X}_{ij} - {}^{\min}_{j}\underline{\otimes}\widetilde{X}_{ij}\right)/\Delta_{\min}^{\max} \quad \text{… (3.5)}$$

Where, $\underline{\otimes}\dot{X}_{ij}$stands for the normalized lower limit value of average Grey relation $\otimes\widetilde{X}_{ij}$

$$\overline{\otimes}\dot{X}_{ij} = \left(\overline{\otimes}\widetilde{X}_{ij} - {}^{\min}_{j}\overline{\otimes}\widetilde{X}_{ij}\right)/\Delta_{\min}^{\max} \quad \text{… (3.6)}$$

Where, $\overline{\otimes}\dot{X}_{ij}$ stands for the normalized upper limit value of average Grey relation $\otimes\widetilde{X}_{ij}$ and Δ_{min}^{max} can find by the given below.

$$\Delta_{min}^{max} = {}^{max}_{j}\overline{\otimes}\widetilde{X}_{ij} - {}^{min}_{j}\underline{\otimes}\widetilde{X}_{ij} \quad \dots (3.7)$$

(ii) Calculating the total normalized crisp values

$$Y_{ij} = \left(\frac{\left(\underline{\otimes}\dot{X}_{ij}(1-\underline{\otimes}\dot{X}_{ij}\right) + \left(\overline{\otimes}\dot{X}_{ij} \times \overline{\otimes}\dot{X}_{ij}\right)}{\left(1-\underline{\otimes}\dot{X}_{ij} + \overline{\otimes}\dot{X}_{ij}\right)}\right) \quad \dots (3.8)$$

(iii) Calculating the final crisp values and matrix

$$Y_{ij}^{*} = \left(min\,\underline{\otimes}\widetilde{X}_{ij} + \left(Y_{ij} \times \Delta_{min}^{max}\right)\right) \quad \dots (3.9)$$

Y_{ij}^{*} Shows the crisp values and to find the crisp matrix the equation is given below.

$$Y = \left[Y_{ij}^{*}\right] \quad \dots (3.10)$$

3.4.5 Generating the crisp relationship matrix

The normalized direct crisp relation matrix, Z, will calculate with the help of the given equation.

$$Z = \frac{Y_{ij}^{*}}{\max\limits_{1 \le i \le n} \sum_{j=1}^{n} Y_{ij}^{*}} \quad \dots (3.11)$$

Each element in Z falls between 0 and 1.

3.4.6 Calculating the total relationship matrix

The total relationship matrix, T is calculating with the help of the equation that is given below.

$$T = Z \times (I - Z)^{-1} \quad \dots (3.12)$$

Where, 'I' is the identity matrix.

3.4.7 Obtain the causal diagram

Assume t_{ij} stands for T. Let R and C be defined as the sum of row elements and column elements for T, respectively.

$$R_i = \sum_{j=1}^{n} t_{ij} \; \forall i \quad \ldots (3.13)$$

$$C_j = \sum_{i=1}^{n} t_{ij} \; \forall j \quad \ldots (3.14)$$

3.4.8 Set up threshold and plot digraph

Matrix T shows the information on how one barrier affects another. A threshold value is required to avoid negligible effects. Threshold value usually set by the mean (μ) and standard deviation (σ) of all elements of matrix T (= μ + σ). In the causal digraph, the horizontal axis (prominence) is determined by (C + R), and the vertical axis (relation) is determined by (C – R). When (C – R) value is positive, it is in the cause category, while negative, it is in the effect category.

3.5 Summary of Methodologies

The use of methodologies, strengths and weaknesses are discussed in table 3.2.

Table 3.2: Summary of methodologies

Methodology	Used to	Strength	Weakness	Used for apparel retailing
Structural Equation modelling	Analyzing the structural relationships among latent constructs that are indicated by multiple measures (Lei and Wu, 2007) .	• Allows conducting a complex, multidimensional, and more precise analysis of empirical data (Tarka, 2017). • Simultaneously analyze data sets with many series of different linkages (Tarka, 2017). • It helps in theory building.	• The ultimate goal is to maximize the model fit to the data instead of carefully differentiated research plans and careful substantive considerations on the grounds of theory (Tarka, 2017).	Ong et al., 2018; Lin and Lin, 2017; Carpenter and Fairhurst, 2005; Bouzaabia et al., 2013; Chang et al., 2015; Kumar and Kim, 2014
Interpretive Structural Model	Identifying and summarizing relationships among factors for a problem or an issue (Sage, 1977).	• Take some elementary graph theory to explain the complex relations between factors of an issue. • It allows individuals and groups to make a decision for an issue. • It transforms unclear, poorly articulated mental models into visible, well-defined models (Jadhav et al., 2014).	• It is a subjective judgement, and any biasing can affect the final result. • It is a qualitative-based analysis.	Deshmukh and Mohan, 2017; Ramesh et al., 2010; Mishra, 2021; Suresh et al., 2019
Quality Function Deployment	Address the strategic and operational decisions to prioritize the functional requirements to maximize the output value with minimum resources.	• Prioritization of functional requirements concerns customers' voices. • Maximize the output value and minimize the resources used. • Reduce implementation	• Need large data for customer requirements. • Difficulty to cooperation among multidisciplinary team. • Time consuming process. • In retail there is no fix	Seker, 2019; Hsu and Lin, 2006; Trappey et al., 1995; Akao, 1990

		time.	customer requirements. Thus use customer value perception and need a survey to collect potential requirements.	
Grey theory	Deals with the ambiguities caused from human judgments (Rajesh and Ravi, 2015)	• Generate possible outcomes with a small amount of data (Xia et al., 2015). • It overcome the vagueness and imprecise judgements. • It uses range due to insuffufficiency and incompletness of crisp values (Lin et al., 2008)	• It is a subjective judgement, and any biasing can affect the final result. • It is a qualitative-based analysis.	----
DEMATEL	Explains interdependence relationships and influential effect values between relevant factors in the form of a digraph and a cause and effect diagram (Lin, 2013).s	• Powerful method to visualize the structure of complex causal relationships. • Able to turn decisions and unclear judgments into exact numerical values using the information provided by each of the decision makers. • It shows the direction of influence from one factor to other by an arrow.	• DEMATEL can not overcome the vagueness and imprecise judgement itself.	Mishra, 2021;

CHAPTER 4

ASSESSMENT OF CUSTOMER VALUE PERCEPTION AND RELATIONSHIP WITH LOYALTY

In the previous chapters of the thesis, topics like the aim of research, literature support, tools, and techniques have been discussed. This chapter seeks to find the outcome for the first objective that has mentioned in section 1.5. The factors that are perceived by the customers and hypothesized relationship among those factors are discussed in section 2.2. Here, in this chapter, the study's background is discussed first, then the structural equation modeling is applied to test the relationship among factors. The steps involved in structural equation modeling were explained in section 3.1.

4.1 Introduction

In this decade, traditional retailers face significant disruptions to keep a sustainable market position (Mena et al., 2016). Traditional players and new entrants are attracted to organized retailing in India. The Indian retail market is the mirror of a unique blend of Indian values and western lifestyle (Kautish and Sharma, 2018). Therefore, competition will be fierce due to the drastic change in the level of customers' awareness about service quality (Gopalan and Satpathy, 2015) and due to the entry of foreign retailers. To achieve a competitive position in the customers' mind, it is essential to know the factors that the customer can perceive. These factors can help retailers achieve the position in the market by utilizing the resources in a better way and providing an enhanced level of customer experience (Siebers et al., 2013). The customers need the best value for their money and also want to save their time during shopping. The customers today are well informed and seek service quality rather than only product quality. Apparel retailers understand the importance of these requirements and put their efforts to fulfill them in a better way (Gopalan and Satpathy, 2015).

Apparel retailers are trying to differentiate their stores in comparison with their competitors. Therefore, the resource-based view (RBV) can help retailers in this regard. Retailers can adopt any strategy from differentiation, cost leadership, and responsiveness. In the apparel retailing scenario, it is tough for traditional and new entrants to stand in front of foreign and domestic corporate players concerning cost leadership and responsiveness (Singh and Samuel, 2018). According to Heizer et al. (2018), differentiation stands for "*Distinguishing the offerings of an organization in a way that the customer perceives as adding value*". Customer satisfaction can measure the customer perceived value (Siebers et al., 2013). This study explores the link between retailers' offerings and customer satisfaction and checks the relationship between customer satisfaction and customer loyalty. Based on the above discussion, this study seeks to find the answer to the following questions.

RQ1: What are the customers' value perceptions?

RQ2: Which of them are better predictors for customer satisfaction?

RQ3: Is customer satisfaction affecting behavioral outcomes such as loyalty?

4.2 Research design and methodology

4.2.1 Measurement

Each construct was modeled as a latent variable and measured using multiple item scales taken from the extant literature. The six-item scale for measuring the store environment (STENV) was adopted from Castaldo et al. (2016). A Three-item scale for measuring the merchandise assortment (MDASRT) and a three-item scale for store communication (STCO) were adopted from Guenzi et al. (2009). Two-item scale for measuring the on-shelf availability (SHSO), the two-item scale for measuring ease of return of product (RTRN), the two-item scale for measuring ease of product

accessibility (PRAC), the four-item scale for measuring the shopping facilities (SHFA), the four-item scale for measuring the product-related information (PRINFO) were adopted from Bouzaabia et al., (2013). A five-item scale for measuring the employee attribute (EMP) was adopted from Kumar and Kim (2014). The three-item scale for measuring customer satisfaction (CUSA) was adopted from Seiders et al. (2005), and the two-item scale for measuring customer loyalty (CULO) is adopted from Sirhoi (1998). The three-item scale was adopted from Jinfeng and Zhilong (2009) for measuring the Perceived Price (PPRC). A questionnaire was developed using a seven-point Likert scale (1 for strongly disagree and 7 for strongly agree) for data collection.

4.2.2 Pre-test and pilot test

Hindi and English language were used to develop the questionnaire. A total of 39 statements was used to define the research construct except for the demographic data. To check the questionnaire's suitability for questions, format, language and length, a pre-test was conducted (Roy et al., 2017). In the first step, two experts and three doctoral candidates were involved in modifying the statements to make them contextually relevant. Then, a pilot test was conducted with 30 respondents to check the reliability of the instrument. The Cronbach alpha for all the constructs was greater than 0.700 to confirm the reliability (Nunnally, 1978).

4.2.3 Sampling and data collection

To validate the theoretically developed model (figure 2.1), an empirical study was conducted in a natural field setting. This approach offers sufficient variance across the factors that are required to test the model. Data were collected from the customer immediately after their shopping experience to minimize carry-over effects from experience. Primarily, the responses were collected from the top apparel retail outlets located in a tier-II city in India.

The survey was divided into three sections. In the first section, the objective and context of the research were explained in detail. The second section has questions that are related to the socio-demographic data of respondents. The third section has the measurement items for the research constructs. Data were collected from July 2017 to October 2017. A total of 648 respondents filled the questionnaire. Upon discarding the erroneous or incomplete responses, we finally obtained 601 usable data analysis responses in SPSS Amos. Of the respondents, 63.56 percent were male, and 36.44 percent were female. Of the respondent, 32.28 were married. Of the respondents, 9.65 percent were below age 20, 52.75 percent were between the age of 20 and 30, 21.13 percent were between the age of 30 and 40, 12.31 percent were between the age of 40 and 50, and 4.16 percent were above the age of 50. Of the respondents, 3.66 percent have high school qualifications, 11.15 percent have intermediate, 52.25 percent have graduated, 24.46 percent have postgraduate, and the remaining 8.49 percent have other qualifications.

4.3 Data analysis and result

4.3.1 Measurement model

The questionnaire was selected based on the previously developed and tested scale from a different country and work field. Since the questionnaire was administered to a new set of respondents, location, and field, the scale was going through exploratory factor analysis (EFA). The Kaiser–Meyer–Olkin value was 0.865, which shows the sample was adequate to conduct factor analysis. The observed significance level for the Bartlett test of sphericity was 0.000. The relationship strength among the items was strong that allow proceeding with EFA. A principal component with varimax rotation was used. The rotated component matrix produced a twelve-factor matrix with no cross-loadings. The eigenvalue of all the twelve factors was greater than 1. The lowest factor loading

for item “There were enough employees in the store to service customers” was 0.548 that failed to get threshold (0.600) as suggested by Hair et al. (2016). Thus, this item was removed from further analysis. The total percent of variance explained by the twelve factors was 83.822. The items were interpretable and could be grouped as named based on past studies.

Further, two measurement models were used. First, the measurement model for in-store logistics was tested. Second, the measurement model with ISL, store environment, store communication, perceived Price, merchandise assortment, customer satisfaction and loyalty was tested.

The first measurement model tested the In-store logistics as a second order factor for the five sub-dimensions (ease of return, on-shelf availability, product accessibility, shopping convenience, and product information). The current study is trying to examine the robustness of the construct with regard to customer perception. To test the second-order factor with sub-construct, the study employed confirmatory factor analysis (CFA) for first-order constructs to check the model's validity and fitness. The result of the CFA has been seen in figure 4.1. Model’s fitness indices achieved the required level of fitness. The required level of fitness indices are as follows: CMIN/df (ratio of minimum discrepancy and degree of freedom) <= 3, CFI (comparative fit index) > 0.90, TLI (Tucker-Lewis index) > 0.90, GFI (goodness of fit index) > 0.90, IFI (Incremental fit index) > 0.90, AGFI (adjusted goodness of fit index) > 0.90 and RMSEA (root mean square error of approximation) < 0.06 (Hair et al., 2010).

Further, the convergent and discriminant validity of the model construct was assessed. Standardized loading estimates were observed for the reliability of constructs. The acceptable loading estimate is ideally 0.700, and a good rule of thumb for loading

estimate is 0.5 or higher (Hair et al., 2010). All the items have a loading estimate more than the acceptable value. Thus, no items have been removed.

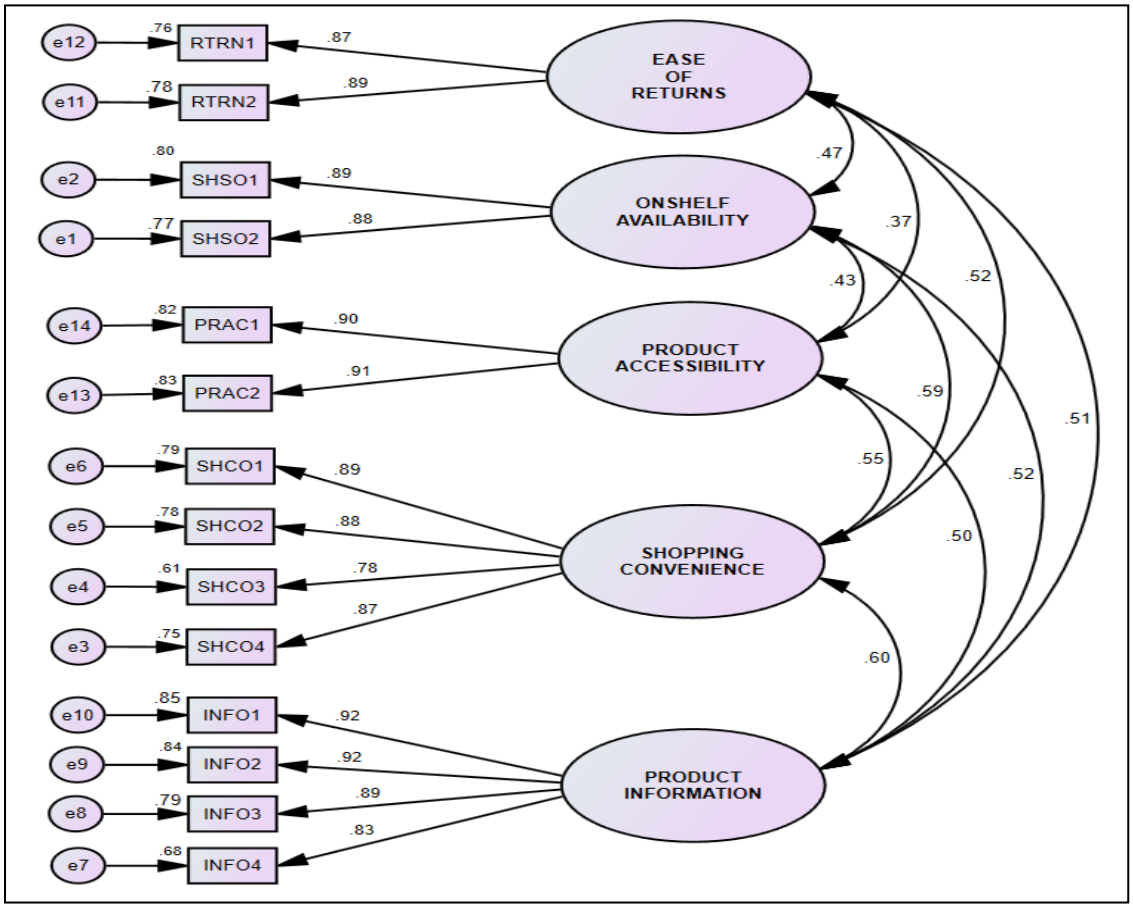


Figure 4.1: CFA for the ISL. Fitness indices: CMIN/DF = 2.551, GFI = 0.959, AGFI = 0.939, CFI = 0.984, TLI = 0.979, NFI = 0.973, IFI = 0.984 and RMSEA = 0.051.

In the next step, construct reliability (CR) and average variance extracted (AVE) were measured to observe items' relatedness within constructs. The acceptable values for CR and AVE are 0.7 and 0.5, respectively (Hair et al., 2010). In the next step, the discriminant validity was checked with the square root of AVE and inter-construct correlations. If the square root of AVE is greater than inter-construct correlations, then this confirms the discriminant validity. Table 4.1 shows the convergent and discriminant measures, and the result showed that all values are in an acceptable range.

Table 4.1: Convergent and discriminant validity for ISL components

	CR	AVE	Product Information	On-shelf Availability	Shopping Convenience	Ease of Returns	Product Accessibility
Product Information	**0.938**	**0.792**	**0.890**				
On-shelf Availability	**0.878**	**0.783**	0.522	**0.885**			
Shopping Convenience	**0.916**	**0.733**	0.600	0.586	**0.856**		
Ease of Returns	**0.870**	**0.770**	0.508	0.472	0.523	**0.878**	
Product Accessibility	**0.903**	**0.823**	0.503	0.426	0.551	0.366	**0.907**

After CFA, it is required to examine the significance of ISL on every sub-construct. For this purpose, the regression path coefficient (Figure 4.2) should be used.

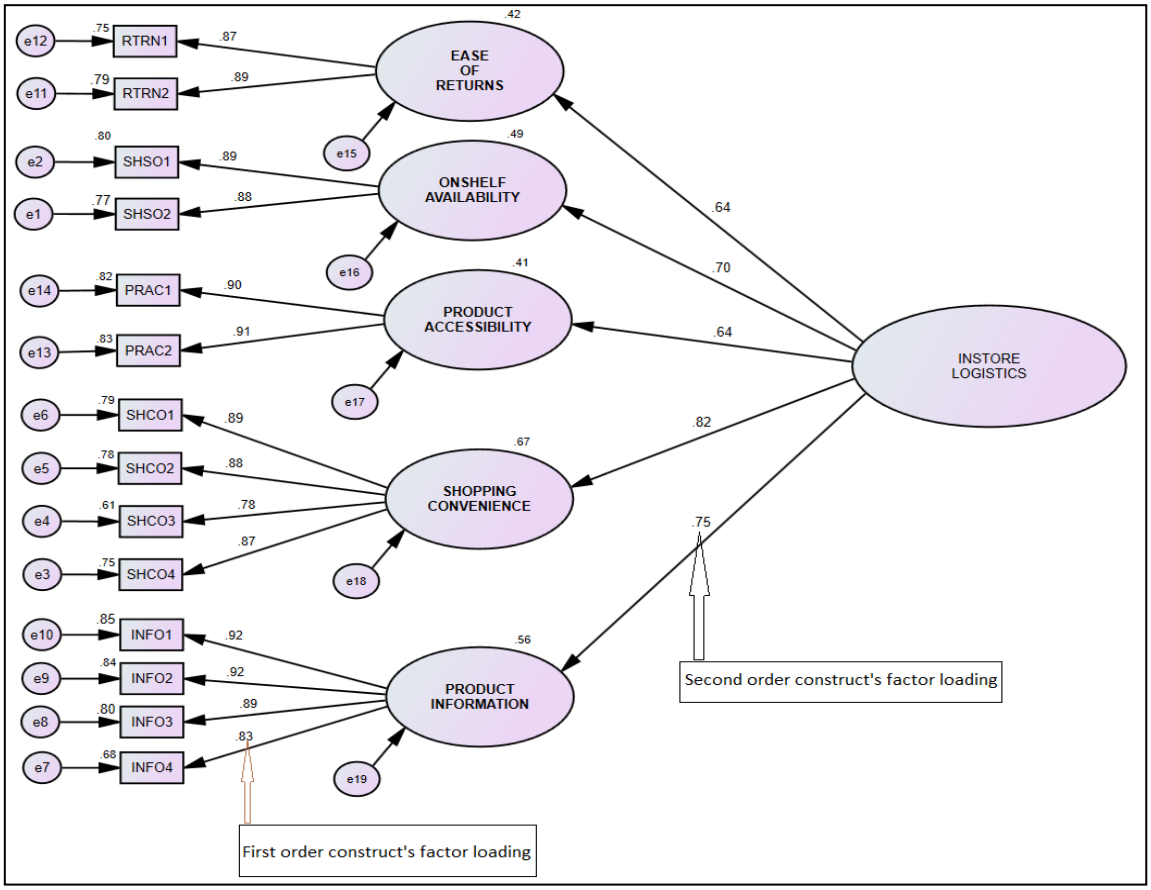


Figure 4.2: The regression path coefficient of ISL. Fitness indices: CMIN/DF = 2.489, GFI = 0.957, AGFI = 0.940, CFI = 0.983, TLI = 0.980, NFI = 0.972, IFI = 0.983 and RMSEA = 0.050.

Standardized loading estimate (factor loading) of ease of return, on-shelf availability, product accessibility, shopping convenience, and product information are 0.64, 0.70, 0.64, 0.82, and 0.75, respectively. Thus, the factor loading achieved the acceptable value as per the rule of thumb for factor loading (Hair et al., 2010; Hair et al., 2016). Further, it is required to examine the output of regression coefficients to check the significance of ISL on every sub-construct (Awang, 2012), and the result has been shown in table 4.2. Result confirms that ISL significantly shows the effect on all sub-constructs. Therefore, the first hypothesis (**H1**) is accepted.

Table 4.2: The regression path coefficient and its significance for ISL

Component	Path	Construct	Estimate	S.E.	C.R.	P	Result
Product Information	<---	In-store Logistics	0.776	0.059	13.205	0.001	Significant
On-shelf Availability	<---	In-store Logistics	0.802	0.056	14.380	0.001	Significant
Shopping Convenience	<---	In-store Logistics	0.727	0.054	13.424	0.001	Significant
Ease of Returns	<---	In-store Logistics	1	Reference Point			
Product Accessibility	<---	In-store Logistics	0.926	0.061	15.236	0.001	Significant

In the second measurement model, the entire constructs have been considered, including ISL. To check the robustness of the entire constructs, again CFA has been employed. In the next step, Standardised loading estimates were examined for the reliability of constructs (Table 4.3).

Table 4.3: Descriptive statistics and reliability

Constructs	Items		Loading
In-store Logistics	On-shelf Availability	In this store, the shelves are well-stocked (0.892*)	0.701
		During my visit, I noticed a product was available that of my interest (0.878*)	
	Ease of Return	One can easily return unwanted and defective product (0.869*)	0.652
		No problems when returning the merchandise (0.885*)	

	Shopping Convenience	In this store, sufficient carrier bags are provided by the cashiers (0.891*)	0.808
		In this store, there are enough shopping carts (0.882*)	
		In this store, the number of cash registers open during peak hours is sufficient (0.781*)	
		This store has convenient hours of operation (0.867*)	
	Product Accessibility	In this store, supply bothers me during the visit (rc = 0.096) (0.904*)	0.639
		In this store, all products can be easily reached (0.910*)	
	Product Information	Washing and care information was available on the label	0.765
		Prices on the product labels are correct	
		In the store, information was available about stock-outs	
		In this store, information of product features is sufficient.	
Customer Satisfaction	I am completely satisfied with the shopping experience in this store		0.918
	I am pleased with the overall service delivered by this store.		0.922
	Shopping in this store is a pleasant experience.		0.901
Loyalty	I will keep on buying products and services from this store.		0.934
	I will suggest this store to my friends		0.924
Store Environment	I like a lot the layout of this store		0.837
	The store environment is very tidy		0.865
	In this store, I feel comfortable.		0.889
	I found it easy to orient myself in this store		0.856
	In this store the display of merchandise is excellent		0.833
	In this store, the layout is modern		0.869
Merchandise	In this store, merchandise quality is very high.		0.864
	In this store, merchandise breadth (products of a different variety) is very high.		0.924
	In this store, merchandise depth (products in each variety) is very high.		0.896
Store Communication	Communication in this store is reliable		0.787
	Communication in this store is clear		0.944
	Communication in this store is complete		0.876
Employee	The employees were well-dressed and appeared neat.		0.788
	The employees were knowledgeable.		0.913
	The employees were friendly.		0.909

	The employees were helpful.	0.862
Price	I get value for my money at this store	0.873
	I can purchase products for less at this store	0.928
	The Price at this store are fair	0.899
*** shows the first-order construct factor loading**		

Further, convergent and discriminant validity have been observed. In convergent validity, the CR and AVE should be equal or more than their cut-off level, 0.700 and 0.500, respectively. The square root of AVE should be higher than inter-construct correlations to satisfy the discriminant validity. Table 4.4 confirmed all the reliability and validity measures.

Table 4.4: Convergent and discriminant validity of the overall model

	CR	AVE	Store Communication	Employee	In-store Logistics	Customer Satisfaction	Loyalty	Store Environment	Merchandise	Perceived Price
Store Communication	0.904	0.759	**0.871**							
Employee	0.925	0.756	0.197	**0.869**						
In-store Logistics	0.839	0.513	0.120	0.152	**0.716**					
Customer Satisfaction	0.938	0.835	0.367	0.336	0.299	**0.914**				
Loyalty	0.926	0.863	0.198	0.162	0.178	0.429	**0.929**			
Store Environment	0.944	0.737	0.188	0.193	0.089	0.387	0.118	**0.858**		
Merchandise	0.923	0.801	0.231	0.086	0.221	0.385	0.206	0.189	**0.895**	
Perceived Price	0.928	0.811	0.180	0.149	0.105	0.414	0.260	0.131	0.222	**0.900**

To improve the model fit, modification indices (MI) were used to identify the correlated items with high MI (more than 15) (Awang, 2012). The result shows that (e20, e21) and (e22, e23) have MI more than 15, which correlates between a pair the

measurement error (e20 ↔ e21 and e22 ↔ e23). The final CFA model with indices (figure 4.3) was acceptable.

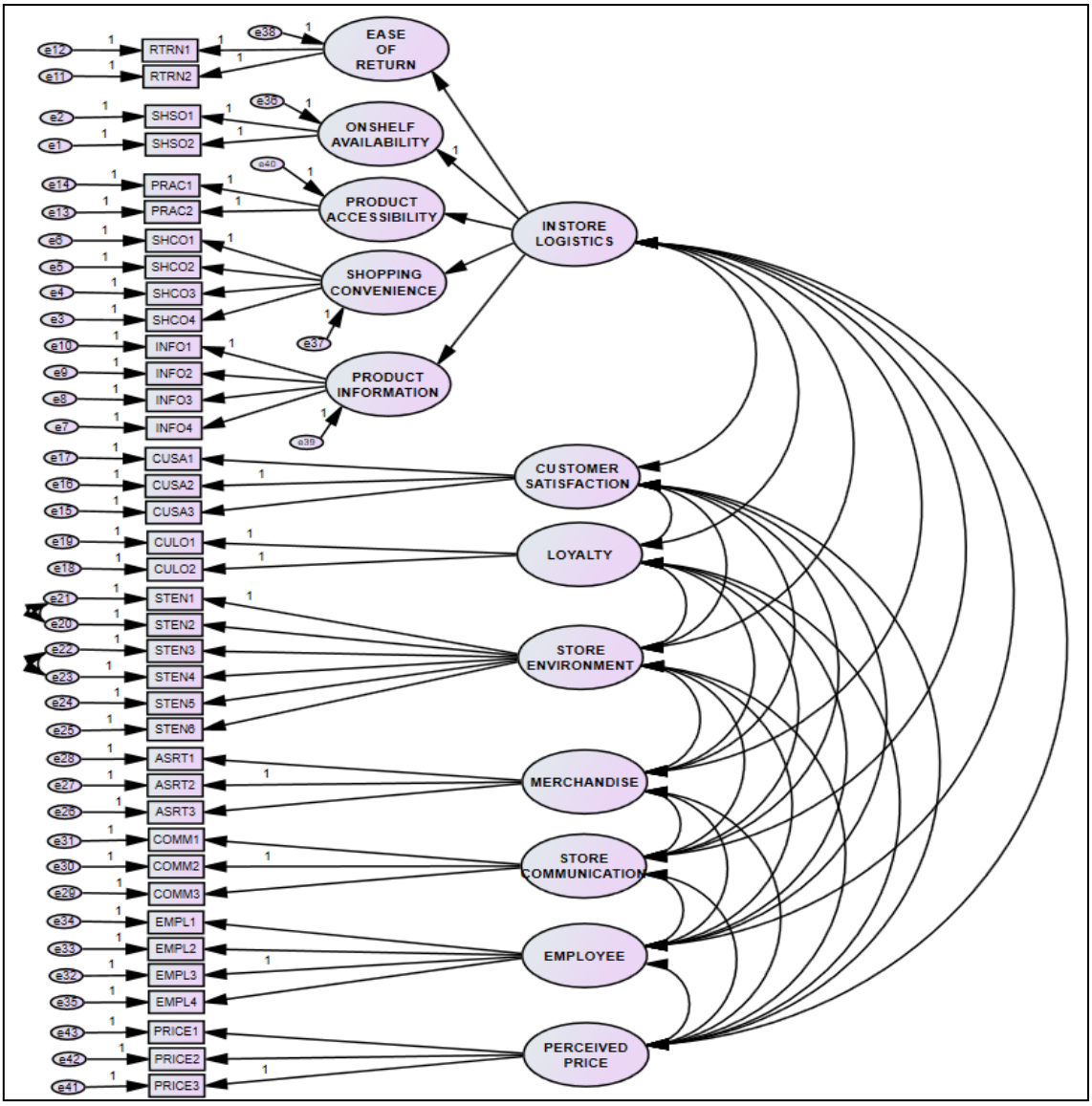


Figure 4.3: CFA of all constructs. CMIN/DF = 1.767, GFI = 0.919, AGFI = 0.905, CFI = 0.979, TLI = 0.976, NFI = 0.947, IFI = 0.979 and RMSEA = 0.033

4.3.2 Hypothesis testing

After confirmation of the overall model was valid and acceptable, structural equation modeling (SEM) was tested for the hypothesized relationships. Fit indices for the SEM are analyzed in terms of CMIN/df, CFI, TLI, GFI, IFI, AGFI, and RMSEA (Hair et al.,

2010). Figure 4.4 shows the SEM with fit indices, which shows a good fit between data and model.

The results indicate that ISL positively influences the customer satisfaction (β = 0.18, p = .000) in apparel retailing scenario. Based on a significant p-value and positive path coefficient (β), **H2** is accepted. The third hypothesis tested the effect of store environment on customer satisfaction. The result shows that the store environment positively influences customer satisfaction (β = 0.26, p = .000) in the apparel retailing scenario, **H3** is accepted. Similarly, findings confirm the acceptance of H4, H5, H6, H7, and H8. Table 4.5 summarises the parameter estimates and results of SEM analysis. Results also depicted that H6 and H3 have the strongest path coefficient, respectively.

Table 4.5: Structural equation model result

Hypothesis	β	t-value	p-value	Result
H2^{+}: ISL → Customer satisfaction	0.18	**4.462**	***	Supported
H3^{+}: Store Environment → Customer satisfaction	0.26	**6.928**	***	Supported
H4^{+}: Store communication → Customer satisfaction	0.21	**5.478**	***	Supported
H5^{+}: Merchandise Assortment → Customer satisfaction	0.22	**5.935**	***	Supported
H6^{+}: Perceived Price → Customer satisfaction	0.30	**7.974**	***	Supported
H7^{+}: Employee → Customer satisfaction	0.20	**5.446**	***	Supported
H8^{+}: Customer satisfaction → Loyalty	0.40	**9.604**	***	Supported
*****p < 0.001**				

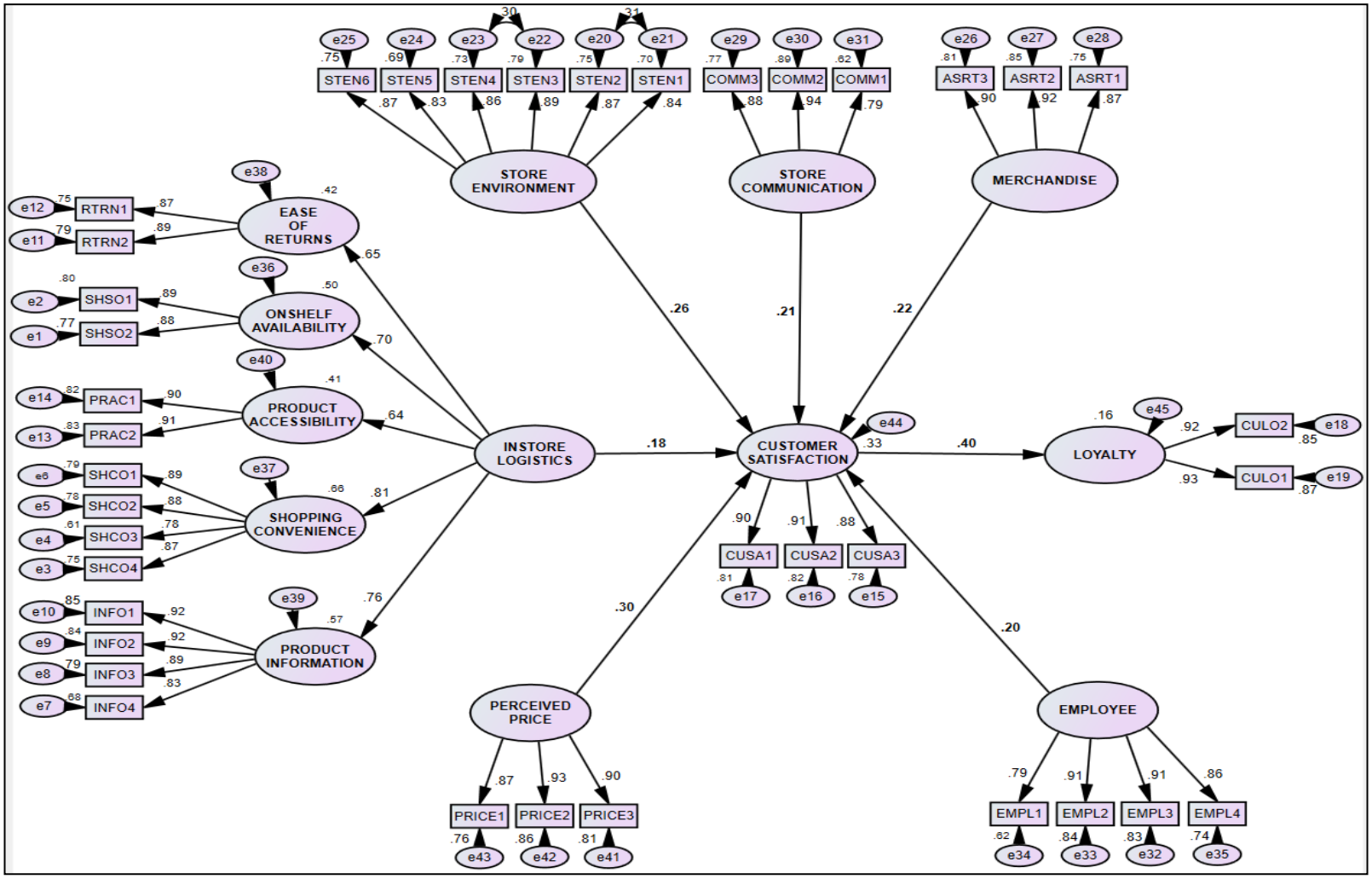


Figure 4.4: Structural equation model. CMIN/DF = 1.865, GFI = 0.903, AGFI = 0.890, CFI = 0.970, TLI = 0.968, NFI = 0.938, IFI = 0.970 and RMSEA = 0.038

4.4 Discussion

In the apparel retail sector, it is required to consider the customers' perception of the values offered. This study assesses the customers' responses to know the values that customers can perceive during the shopping. Further, the impact of customer satisfaction on loyalty has been checked. There are ten factors identified as the perceived value like On-shelf Availability, Ease of Return, Shopping Convenience, Product Accessibility, Product Information, Store Environment, merchandise, store communication, perceived Price, and employee attribute. Based on theory and model 5, factors are used as indicator/observed variables for In-store logistics like On-shelf Availability, Ease of Return, Shopping Convenience, Product Accessibility, Product Information. Therefore, a total of six factors were tested as perceived value like ISL, store Environment, merchandise, store communication, perceived Price, and employee. Customer satisfaction is used as an effect factor for customers' perceived value factors.

The result demonstrates that all six factors can satisfy the customers. The result also shows that the perceived price and store environment, from six factors, potentially affect customer satisfaction. The finding shows the positive effect of perceived Price on customer satisfaction from western and Indian metro cities. In further discussion, ISL with five indicators/observed latent factors also affects customer satisfaction. Bouzaabia et al. (2013) introduce the ISL as the fresh perspective in Belgian grocery-store. This factor mainly deals with the functions that the customers are not directly perceived, but the outcome in terms of five mentioned factors can make it a valuable perceived factor. The findings of this study also support the outcome of Bouzaabia et al. (2013).

4.5 Conclusion

This study is divided into two steps. In the first step, the hypothesis tests the five factors as indicator/observable variables for the in-store logistics. In the second step,

hypotheses were tested to check the impact of in-store logistics and other five factors on customer satisfaction. The findings show that all factors positively influence customer satisfaction. Further, the hypothesis is tested for the impact of customer satisfaction on loyalty. The result positively influences loyalty. Here, no hypothesizes have been rejected. The perceived price has the potential importance in tier II city and opposes the findings of Indian metro and western results.

In this study, in-store logistics was used as the second-order construct and being used first time in any Indian retailing context. The role of communication in the store cannot be ignored. Castaldo et al. (2016) argued that the merchandise assortment and transparent communication between firm and customer increase trust. Findings support the above argument. Hence, all six factors can be perceived by the customers. Therefore, policymakers should carefully consider these findings.

CHAPTER 5

UNDERSTANDING THE INTERRELATIONSHIP OF FACTORS TO ACHIEVE THE RETAIL COMPETITIVE POSITION

In the previous chapter, ten factors have been identified that the customers can perceive during shopping. Further, these ten factors were used to determine the functional requirements of retail from the literature survey (chapter 2) and validated by experts. In this study, the background of the research and interrelationships among strengthening factors has been discussed. To find the interrelationship among factors interpretive structural model (ISM) is used. The steps involved in the ISM have been discussed in chapter 3.

5.1 Introduction

Concerning the number of employees and establishments for doing business, apparel retailing is the second largest sector after grocery retailing (Deloitte, 2014). Shoppers are at the center of focus in the current business scenario, and their pain is the primary driver (Bingham, 2004) of offerings. The demand of shoppers has changed now. Shoppers need value for their money and time. In this contrast, if retailers do something to provide value for their customers and customers perceive it as a value, it will add a competitive advantage for the retailer (Porter and Miller, 1985). Grewal et al. (2010, p. 29) stated that in the future, those retailers who pursue cost control and value differentiation simultaneously would succeed in the coming decade.

The apparel retail industry of India has the highest number of outlets in the world. Indian retail market is expected to grow from USD 672 billion in 2017 to USD 1.1 trillion in 2020 at the rate of 13 percent Compound Annual Growth Rate (CAGR) (IBEF report, 2017). By 2020, India will become the world's youngest population country, and this fragment drives retailers to innovate in product development, service

offerings, and delivery (Deloitte, 2014). Brand personality is also an important aspect that positively influences purchase intention. The more the brand personality, the higher will be the purchase intention (Phau and Lau, 2001).

Competition in the Indian retail sector is growing day by day due to globalization and the new Foreign Direct Investment (FDI) policy of the Government of India (GoI). Therefore, the competition is frightening and needs to rethink competitive strategy and provide more value to shoppers. Competitive positioning practices with some strategic supply chains can be a solution for survival and growth. Some criteria for the competitive advantage are as follows. First, it must be associated with a value-added attribute that is of relevance to the shopper segment. Second, the shopper must comprehend it. Third, the competitors must not easily copy it (Morschett et al., 2006). Fourth, with many foreign apparel players waiting to enter India through FDI, it has become a research destination (Venkatesh et al., 2015).

This study aims to investigate and analyze selective SFs to achieve competitiveness in the realm of research. This contextual relationship is established through ISM and followed by a Fuzzy Matriced' Impacts Cruoses Multiplication Applique a un Classement (FMICMAC) analysis to classify factors. Thus, our anticipated model is based on a perception that each factor is linked with numerous which either drive or depend on them. In this framework, the first step is to identify and analyze the SFs of the competitive positioning. The focus is to propose a methodology based on FMICMAC analysis to analyze and classify the SFs of competitive positioning of retail context. Therefore, that appropriate strategies could design to improve competitive retail position (CP).

Competitive positioning is at the center of market-focused management to choose the target market in which a firm will operate. Amonini et al. (2010) consider CP attributes of service firms by focusing on the utilization of relationships, service quality, brand reputation, and value. A combination of the RBV (internal factors) and the industrial organization view (external factors) is essential because of positioning decisions that require finding a profitable match between market requirements and the ability to satisfy them (Hooley and Greenley, 2005). Therefore, the following questions were posed to explore the knowledge:

RQ1. What are the strengthening factors in achieving a competitive position in the retail market?

RQ2. How are the strengthening factors interrelated with each other?

This study is an effort to answer the research questions mentioned above by designing an interpretive structural model. A brief description is given below, followed by an introduction to the Indian apparel retail store to choose the strengthening factors. Table 2.2 present the factors, their descriptions, and sources.

5.2 Interrelationship among strengthening factors

Here, ISM is used to establish the interrelationship among strengthening factors. The ISM and FMICMAC are discussed in section 3.2. The process starts with the identification and finalization of items. A total of 9 items for this issue have been identified that are discussed in chapter 2 under section 2.3. Further, to develop the structural self-interaction matrix (SSIM), the semi-structured questionnaire has presented before the experts from reputed retail stores in Varanasi city. A total of 25 experts have been contacted from both industry and academia with at least ten years or

more experience and requested to complete the questionnaire. A total of 36 questions were asked to experts with a semi-structured questionnaire.

5.2.1 Development of Structural Self-Interaction Model (SSIM)

Here, a total of nine factors and their resultant contextual relationships were shown in table 5.1. For the relationship, the majority count of the specific relationship between two factors has been taken from experts' responses.

- SF1 influences the SF9 and the relationship denoted as 'V'. It means the direction of factors is in one direction from SF1 to SF9 (SF1 → SF9).
- SF2 is influenced by the SF7 and the relationship denoted as 'A'. It means the direction of factors is in one direction from SF7 to SF2 (SF7 → SF2).
- SF3 and SF7 influence each other, and the relationship denoted as 'X'. It means the direction of factors is in both directions from SF3 to SF7 (SF3←→ SF7).
- SF1 and SF8 are not related to each other, and the relationship is denoted as 'O'.

Table 5.1: Structural Self-Interaction Matrix (SSIM)

No.	Strengthening factors	9	8	7	6	5	4	3	2	1
1	SF1	V	O	A	O	A	X	A	O	
2	SF2	V	X	A	A	O	O	O		
3	SF3	V	V	X	O	V	V			
4	SF4	V	A	O	O	A				
5	SF5	V	V	O	O					
6	SF6	V	O	V						
7	SF7	V	V							
8	SF8	V								
9	SF9									

5.2.2 Developing the initial reachability matrix

Based on the rules discussed in section 3.2.2, the SSIM is converted into the initial reachability matrix shown in table 5.2.

Table 5.2: Initial reachability matrix

No.		1	2	3	4	5	6	7	8	9
1	SF1	1	0	0	1	0	0	0	0	1
2	SF2	0	1	0	0	0	0	0	1	1
3	SF3	1	0	1	1	1	0	1	1	1
4	SF4	1	0	0	1	0	0	0	0	1
5	SF5	1	0	0	1	1	0	0	1	1
6	SF6	0	1	0	0	0	1	1	0	1
7	SF7	1	1	1	0	0	0	1	1	1
8	SF8	0	1	0	1	0	0	0	1	1
9	SF9	0	0	0	0	0	0	0	0	1

5.2.3 Developing final reachability matrix

To get the final reachability matrix, some of the rules are given below, and the final reachability matrix has shown in table 5.3.

- Multiply the initial reachability matrix by itself to get the transitivity.
- After the multiplication, in the obtained matrix, the number for a particular relationship greater than 1 (> 1) will be converted into 1. Continue the multiplication process until transitivity achieve.
- Obtained transitivity matrix is the final reachability matrix with driving and dependence.

Table 5.3: Final reachability matrix

No.		1	2	3	4	5	6	7	8	9	**Driver**
1	SF1	1	0	0	1	0	0	0	0	1	**3**
2	SF2	1*	1	0	1*	0	0	0	1	1	**5**
3	SF3	1	1*	1	1	1	0	1	1	1	**8**
4	SF4	1	0	0	1	0	0	0	0	1	**3**
5	SF5	1	1*	0	1	1	0	0	1	1	**6**
6	SF6	1*	1	1*	1*	1*	1	1	1*	1	**9**
7	SF7	1	1	1	1*	1*	0	1	1	1	**8**
8	SF8	1*	1	0	1	0	0	0	1	1	**5**
9	SF9	0	0	0	0	0	0	0	0	1	**1**
	Dependence	**8**	**6**	**3**	**8**	**4**	**1**	**3**	**6**	**9**	

5.2.4 Level Partitioning

According to Warfield (1974), the reachability and antecedent set are found from the final reachability matrix. The reachability set includes the SF itself and other SFs, which it may help achieve, whereas the antecedent set includes the SF itself and other SFs, which may help achieve it. For level, partitioning creates three columns as Reachability set, Antecedent set, and Intersection set. The intersection of reachability set and antecedent set formed the interaction set. If the membership of the reachability set is the same as the membership of the intersection set, it may assign level numbers. As in table 5.4, SF9 has the same reachability set and intersection set. Now, the customer value proposition is placed at level 1.

This top-level element will not reach any higher level from its level. Therefore, in the next step, remove the particular factor and number from reachability and antecedent sets and perform similar procedures as mentioned above until all partitioning has been completed.

Table 5.4: First iteration of level partitioning

SFs Code	Reachability set	Antecedent set	Intersection set	Level
SF1	1,4,9	1,2,3,4,5,6,7,8	1,4	
SF2	1,2,4,8,9	2,3,5,6,7,8	2,8	
SF3	1,2,3,4,5,7,8,9	3,6,7	3,7	
SF4	1,4,9	1,2,3,4,5,6,7,8	1,4	
SF5	1,2,4,5,8,9	3,5,6,7	5	
SF6	1,2,3,4,5,6,7,8,9	6	6	
SF7	1,2,3,4,5,7,8,9	3,6,7	3,7	
SF8	1,2,4,8,9	2,3,5,6,7,8	2,8	
SF9	**9**	1,2,3,4,5,6,7,8,9	**9**	**I**

Here, further partitioning has shown from table 5.5 to table 5.9.

Table 5.5: Second Iteration of level partitioning

SFs Code	Reachability set	Antecedent set	Intersection set	Level
SF1	**1,4**	1,2,3,4,5,6,7,8	**1,4**	**II**
SF2	1,2,4,8	2,3,5,6,7,8	2,8	
SF3	1,2,3,4,5,7,8	3,6,7	3,7	
SF4	**1,4**	1,2,3,4,5,6,7,8	**1,4**	**II**
SF5	1,2,4,5,8	3,5,6,7	5	
SF6	1,2,3,4,5,6,7,8	6	6	
SF7	1,2,3,4,5,7,8	3,6,7	3,7	
SF8	1,2,4,8	2,3,5,6,7,8	2,8	

Table 5.6: Third Iteration of level partitioning

SFs Code	Reachability set	Antecedent set	Intersection set	Level
SF2	**2,8**	2,3,5,6,7,8	**2,8**	**III**
SF3	2,3,5,7,8	3,6,7	3,7	
SF5	2,5,8	3,5,6,7	5	
SF6	2,3,5,6,7,8	6	6	
SF7	2,3,5,7,8	3,6,7	3,7	
SF8	**2,8**	2,3,5,6,7,8	**2,8**	**III**

Table 5.7: Fourth Iteration of level partitioning

SFs Code	Reachability set	Antecedent set	Intersection set	Level
SF3	3,5,7	3,6,7	3,7	
SF5	**5**	3,5,6,7	**5**	**IV**
SF6	3,5,6,7	6	6	
SF7	3,5,7	3,6,7	3,7	

Table 5.8: Fifth Iteration of level partitioning

SFs Code	Reachability set	Antecedent set	Intersection set	Level
SF3	**3,7**	3,6,7	**3,7**	**V**
SF6	3,6,7	6	6	
SF7	**3,7**	3,6,7	**3,7**	**V**

Table 5.9: Sixth Iteration of level partitioning

SFs Code	Reachability set	Antecedent set	Intersection set	Level
SF6	**6**	6	**6**	**VI**

5.2.5 Developing the canonical matrix

Arrange the final reachability matrix in order of their levels. The matrix found from this method is in lower triangular. This lower triangular matrix is a canonical matrix shown in Table 5.10.

Table 5.10: Canonical Matrix

Nos.	SFs	**9**	**1**	**4**	**2**	**8**	**5**	**3**	**7**	**6**
9	SF9	1	0	0	0	0	0	0	0	0
1	SF1	1	1	1	0	0	0	0	0	0
4	SF4	1	1	1	0	0	0	0	0	0
2	SF2	1	1	1	1	1	0	0	0	0
8	SF8	1	1	1	1	1	0	0	0	0
5	SF5	1	1	1	1	1	1	0	0	0
3	SF3	1	1	1	1	1	1	1	1	0
7	SF7	1	1	1	1	1	1	1	1	0
6	SF6	1	1	1	1	1	1	1	1	1

5.2.6 Formation of ISM model

ISM model building starts from the canonical matrix that helps in the generation of a digraph. In the digraph, the relationship shows by an arrow from i to j. In figure 5.1, node 6 has a direct relationship with node 3, and node 3 has a direct relationship with node 5, while node 6 has an indirect relationship with node 5. It means the initial digraph consists of direct and indirect relations among nodes (SFs numbers).

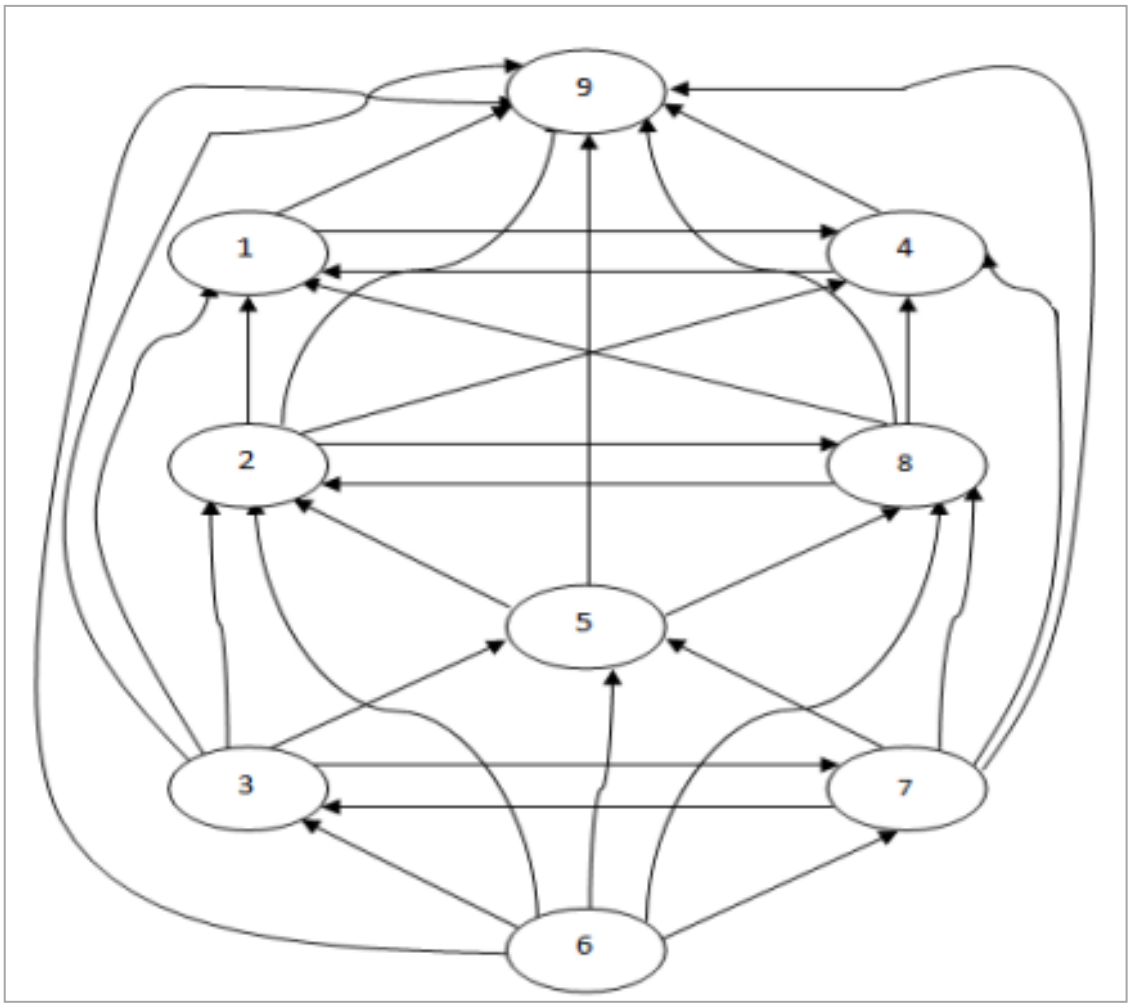


Figure 5.1: Digraph of SFs

After getting the initial digraph, the next step is to find the final model by removing the indirect relations (transitivity) and replace the nodes with the statements. ISM-based model is shown in figure 5.2.

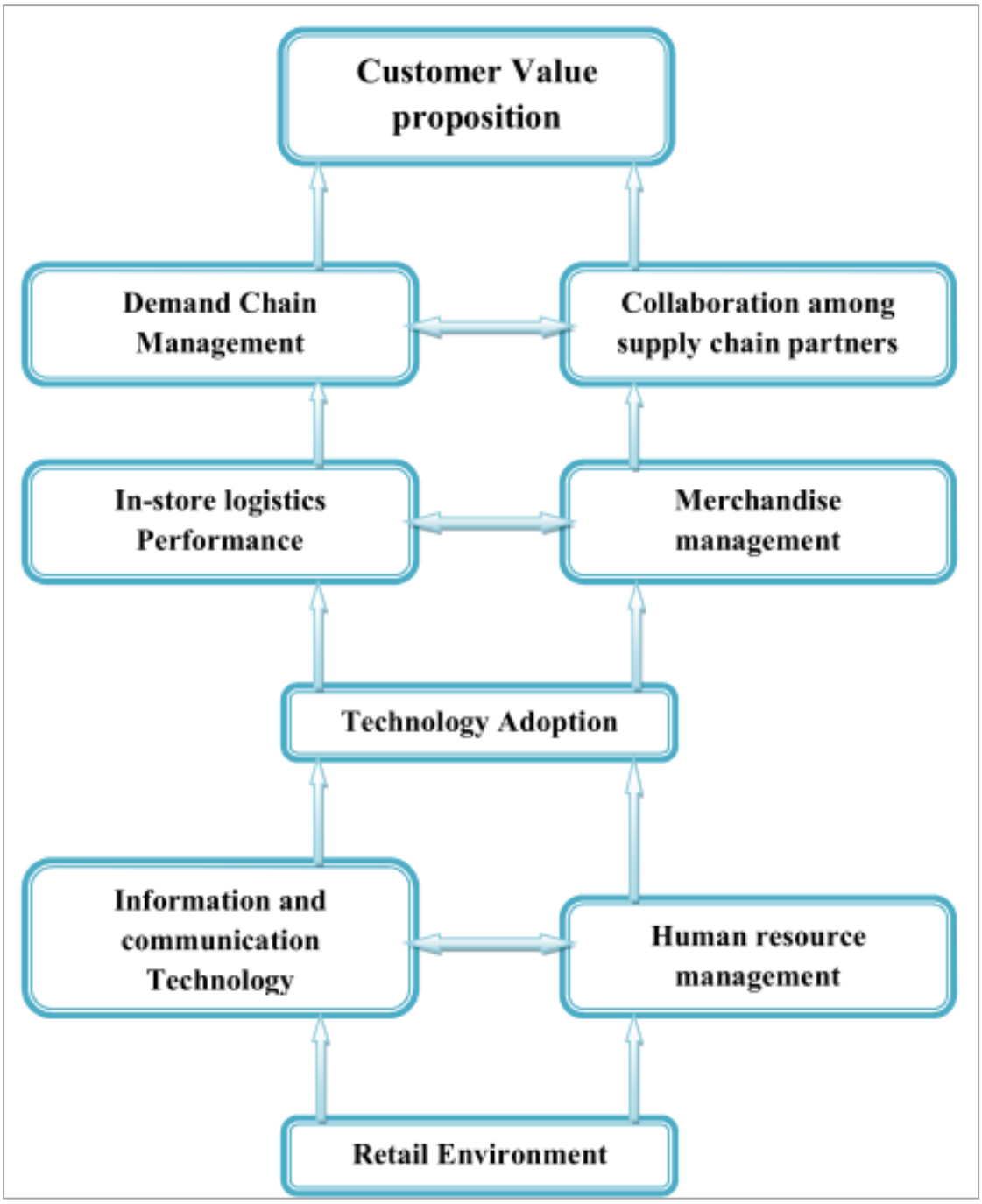


Figure 5.2: An Interpretive structural model for the SFs.

5.2.7 FMICMAC analysis

The FMICMAC analysis stands for Fuzzy Matrice d'Impacts Croises Multiplication Applique' an Classment. The MICMAC classification is based on the driving and dependence power obtained from the final reachability matrix. In the final reachability matrix (table 5.3) relationship of SF6 with SF2, SF3 and SF7 are equal, and the value of

the relationship is ‘1’. To add strength and overcome the above issue, the FMICMAC is used. Steps involved in the FMICMAC are discussed in section 3.2.8.

In the first step, to obtain the DRM, the transitivity should ignore, and the diagonal numbers converted into zero. Table 5.11 shows the direct relationship matrix.

Table 5.11: Direct relationship matrix

No.	SFs	1	2	3	4	5	6	7	8	9
1	SF1	0	0	0	1	0	0	0	0	1
2	SF2	0	0	0	0	0	0	0	1	1
3	SF3	1	0	0	1	1	0	1	1	1
4	SF4	1	0	0	0	0	0	0	0	1
5	SF5	1	0	0	1	0	0	0	1	1
6	SF6	0	1	0	0	0	0	1	0	1
7	SF7	1	1	1	0	0	0	0	1	1
8	SF8	0	1	0	1	0	0	0	0	1
9	SF9	0	0	0	0	0	0	0	0	0

After getting the direct relationship matrix, the next step is to find the fuzzy direct relationship matrix. For this method, a fuzzy scale would use, as shown in table 5.12.

Table 5.12: Fuzzy reachability scale

Possibility of reachability	**No**	**Very low**	**Low**	**Medium**	**High**	**Very high**	**Complete**
Value	0	0.1	0.3	0.5	0.7	0.9	1

The same experts are contacted again and requested to assign the value from the fuzzy reachability scale for each relationship that showed the relationship with entries ‘1’ in the direct relationship matrix and then take the majority value of all the entries. Table 11 shows the final direct relationship matrix. Now the obtained matrix is a fuzzy direct relationship matrix that is shown in table 5.13.

Table 5.13: Fuzzy Direct Relationship Matrix

No.	SFs	1	2	3	4	5	6	7	8	9
1	SF1	0	0	0	0.7	0	0	0	0	0.7
2	SF2	0	0	0	0	0	0	0	0.7	0.7
3	SF3	0.9	0	0	0.7	0.7	0	0.5	0.9	0.5
4	SF4	0.5	0	0	0	0	0	0	0	0.3
5	SF5	0.7	0	0	0.7	0	0	0	0.9	0.7
6	SF6	0	0.5	0	0	0	0	0.7	0	0.7
7	SF7	0.3	0.7	0.3	0	0	0	0	0.5	0.7
8	SF8	0	0.7	0	0.5	0	0	0	0	0.7
9	SF9	0	0	0	0	0	0	0	0	0

After getting the fuzzy direct relationship matrix, the next step is to find the stabilized matrix through fuzzy matrix multiplication using equation 3.1. Matrix multiplication will continue until the finding of the stabilized matrix. Stabilized fuzzy matrix is shown in table 5.14. Driving power is determined by summing the entries of possibilities of interactions in the rows. The dependence power is determined by summing the entries of possibilities of interactions in the columns.

Table 5.14: Converged Direct Relationship Matrix

No.		1	2	3	4	5	6	7	8	9	**Driver**
1	SF1	0.5	0	0	0	0	0	0	0	0.3	**0.8**
2	SF2	0	0.7	0	0.5	0	0	0	0	0.7	**1.9**
3	SF3	0.5	0.7	0.3	0.5	0	0	0	0.7	0.7	**3.4**
4	SF4	0	0	0	0.5	0	0	0	0	0.5	**1**
5	SF5	0.5	0.7	0	0.5	0	0	0	0	0.7	**2.4**
6	SF6	0.5	0.7	0.3	0.5	0	0	0	0.5	0.7	**3.2**
7	SF7	0.5	0.5	0	0.5	0.3	0	0.3	0.7	0.7	**3.5**
8	SF8	0.5	0	0	0	0	0	0	0.7	0.7	**1.9**
9	SF9	0	0	0	0	0	0	0	0	0	**0**
	Dependence	**3**	**3.3**	**0.6**	**3**	**0.3**	**0**	**0.3**	**2.6**	**5**	

Duperrin and Godet (1973) introduced the MICMAC method. MICMAC enables one to confirm the importance of certain items and uncover certain items, indirectly

playing an important role and not recognized by direct classification. In the FMICMAC analysis, the factors are classified into autonomous, dependent, linkage, and driver.

5.3 Result and discussion

The first cluster is autonomous, with a weak driver and weak dependence power, and relatively disconnected from the system. Figure 5.3 shows that there are no factors under this cluster. It means the managers can consider any factor from the nine SFs for improvement and creating any unique offerings. The second cluster is dependent, which has weak driving power but strong dependence power. DCM (SF1), Collaboration among supply chain partners (SF4), and Customer value proposition (SF9) are encompassed in this cluster. These factors are at a high level in the ISM hierarchy (see figure 5.2). The managers should give high priority when tackling these factors. The third cluster is a linkage, which has strong driving power and strong dependence power. These factors affect other factors and get affected by other factors.

In-store logistics performance (SF2) and Merchandise management (SF8) are coming under this cluster. The fourth cluster is a driver or says independent with strong driver power and weak dependence power. Information and communication technology (SF3), Technology adoption (SF5), retail environment (SF6), and Human Resource Management (SF7) are considered in this cluster. The managements need more focus on these factors and treat them as the main factors of all SFs. These SFs help to achieve other SFs that are at a top-level in the ISM hierarchy.

Many works are done on leanness, agility, and other efficiency improvement techniques in the manufacturing sector. Still, it is also essential to attract and retain the customer in the retail industry by the product quality and the unique offerings that the customers recognize. For a retail store, competitive positioning strategy is responsible

for reducing cost and takes customer-oriented actions by which customer shows loyalty to store. No single factor would self-sufficient, so it is required to identify and classify the factors.

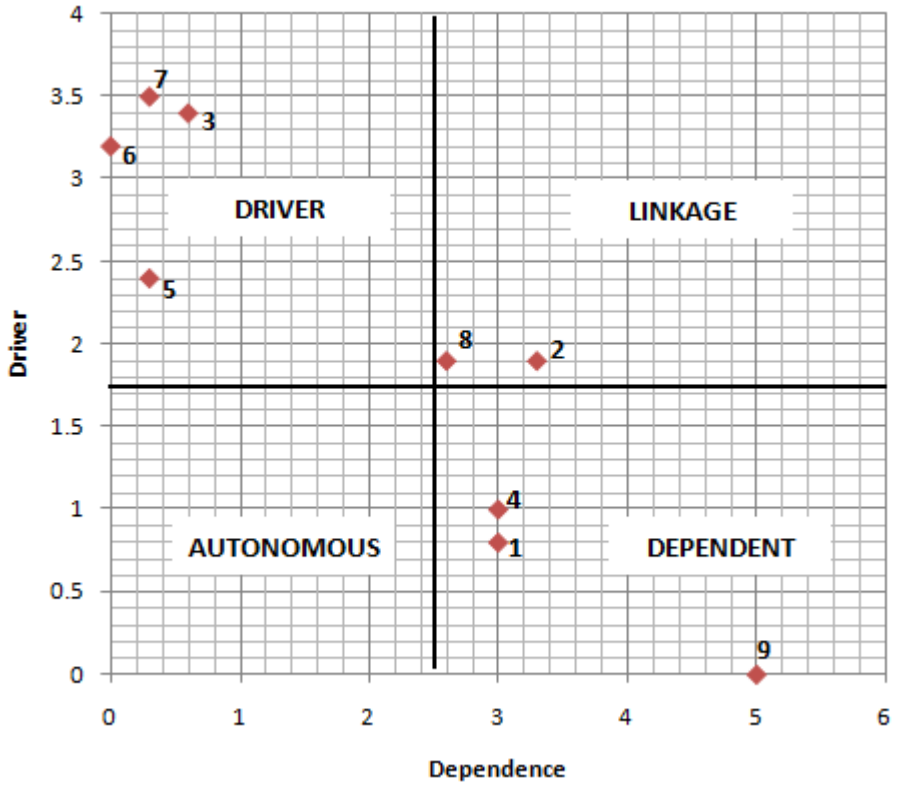


Figure 5.3: Classification of factors

In this research study, we have developed an integrated model using ISM and FMICMAC, which may help the retail managers.

5.4 Theoretical implications

- From this study, an attempt has been made to identify the major SFs for positioning a retail store in the market. Many research papers show many SFs, but no article has attempted to understand the interrelationship among SFs. Also, there is no study available on the classification of strengthening factors based on the fuzzy MICMAC method in best of author's knowledge. This study helps top management of retail

and practitioners understand the relationship framework; hence, this research is essential.

- A key finding of the research is that the retail environment (SF6) is the significant strengthening factor for any retail store. Three other factors have the highest driver power, namely: information and communication technology (SF3), technology adoption (SF5), and human resource management (SF7). Therefore, managers should focus on these factors and provide some unique offerings to add value to the customers.
- This ISM-based model of SFs can help the practitioners and academics during planning for a competitive positioning strategy. They could not randomly pick any of SFs, and the managers should thoroughly see the action of the hierarchy of Factors.

- The in-store logistics performance is used first time in the Indian context to the best of the author's knowledge. Another finding of the study is that in-store logistics performance (SF2) and merchandise management (SF8) are at the upper and right corner of figure 5.3. This corner is linkage and plays the middle-level role in which the factors are unstable and have the high driver and high dependent power. There is a need for careful study on the factors, and these factors have significantly higher driver power and affect the topmost factors.

5.5 Managerial implications

Jurevicius (2013) stated that combining internal and external factors could help achieve sustainable competitive advantage. There are few papers on the competitive positioning of retail stores and focused only on internal factors (skills and capabilities). Therefore, it is required to find both the factors internal (resource-based view) and external. ISM

method renovates unclear and unstructured variables related to an issue into visible, well-formatted models, which is valuable for many purposes.

The retail store management needs to understand the characteristics and interrelationship among factors for achieving a market position. With this study's help, top management of retail stores can better understand the interaction of factors (internal and external) and aware of the hierarchy of factors, and use them one by one as per organization requirements. A retailer can achieve a competitive position in the market if they successfully implement the developed hierarchy. Some key points of the clusters are as follows.

- In the first cluster (Autonomous), there are no SFs that fall under this cluster. This cluster has a weak driver and weak dependence and relatively disconnected from the system. Therefore, they do not have much influence on the system. Hence, the managers should not take lightly any of the factors.
- In the second cluster (Dependent), three factors come under this cluster: customer value proposition, DCM, and Collaboration among supply chain partners. They are at the top of the hierarchy (figure 5.2). They require all other SFs to maximize the effect of SFs on the implementation of competitive positioning strategy. Therefore, management should give high priority.
- In the third cluster (Linkage), two factors come under this cluster, like In-store logistics performance and merchandise management. Any change that occurs in these factors can affect other factors, and it can feedback itself. Therefore, these are unstable, and managers should carefully handle these factors.
- In the fourth cluster (Driver), Information and communication technology, Technology adoption, retail environment, and Human Resource Management are strong driver but weak dependent. Therefore, it is also known as an independent

cluster. Thus, management should focus more cautiously on these factors. These factors can help achieve those factors at the top of the ISM hierarchy model.

5.6 Conclusion

To formulate the strategies for competitive positioning, the managers and decision-makers need to understand the characteristics and interrelationship of strengthening factors. A hierarchy of strengthening factors, identified from ISM and FMICMAC, helps the managers and decision-makers to understand the focal area that needs attention to make the positioning strategy successful. In the present work, nine strengthening factors are identified based on the perceived values of the previous chapter and expert opinion. The interrelationship and importance of each of the strengthening factors are studied with the help of interpretive structural modeling.

CHAPTER 6

AN INTEGRATED FRAMEWORK TO CREATE, MANAGE AND EVALUATE THE POSITIONING STRATEGIES

Customer requirement is not accurate for retailing scenario due to diversity in demand. Therefore, customer value perception is used at customer requirements (Trappey et al., 1995). Customer value perception for the competitive positioning strategies is the central concern (Stanford et al., 2012) for the retailers, decision-makers, and researchers. Retailers want to position their stores in customers' minds over their competitors (Reis and Trout, 1986) by bridging the gap between the demand of customers and the retailer's capability to fulfill these demands. Due to increased customer awareness and increment in disposable income and credit availability, impulse buying behavior is in trend, especially in the apparel retailing sector (Dittmar and Drury, 2000). An extensive literature review on customer value perception is discussed in chapter 2 and finalizes SEM factors in chapter 4. Based on these value perceptions, retailers and decision-makers need to identify the factors that strengthen them. In chapter 5, the strengthening factors were identified. This chapter aims to develop a balanced approach between customers' value perceptions and retailers' design requirements.

6.1 Introduction

Customer satisfaction in apparel retailing is different from other retailing (Prasad, 2014). There are many retailers' offerings, but the customers remember a few of them due to limit of mind (Trout and Rivkin, 1996). It is essential to use customers' perspectives to know the most attractive offerings or factors to satisfy them. To overcome these issues, retailers and decision-makers need to identify the functional requirements that are valuable for customers to position their store in customers' minds.

Further, the weight of design requirements is calculated to prioritize them to implement the positioning strategy in a structured way.

Therefore, this study used the ISM and QFD frameworks to translate customer requirements into specific functional design requirements (Debata et al., 2012). ISM can enable a firm to identify the design requirements and establish a relationship among those factors (Thakkar et al., 2011). QFD can enable a firm to understand the planning needs clearly (Thakkar et al., 2011). QFD also helps increase market share, customer satisfaction, and quality of product and service whereas reducing cost and cycle time for the product and service design and improvement (Chen and Ko 2011; Jin et al. 2016; Li et al., 2018). Therefore, some research questions arise those are as follows:

RQ1. What are the factors (CRs) that affect customer satisfaction?

RQ2. What are the factors (FDRs) that help to achieve the customer requirements?

RQ3. How can link the customer requirements to the design requirements in a structured way?

This chapter helps the retailers, decision-makers, and researchers understand the customers' needs and implement competitive positioning strategies.

6.2 An integrated framework

Factors of customer requirements are taken from chapter 4 through SEM, factors of design requirements are taken from chapter 5 through the ISM. In this chapter, QFD and ISM have been employed for developing an integrated framework to assist the implementation of the competitive positioning strategy in a prioritized way. There are ten customer requirements, finalized from literature review (chapter 2) and SEM (chapter 4), like the ease of return, on-shelf availability, product accessibility, shopping

convenience, product information, store environment, store communication, merchandise assortment, perceived price, and employee. Further, nine design requirements finalized from literature review (chapter 2) and established the contextual relationship through ISM (chapter 5) are as follows: demand chain management, In-store logistics performance, information and communication technology, collaboration among supply chain partners, technology adoption, retail environment, human resource management, merchandise management, and customer value proposition.

6.2.1 Prioritization of design requirements

Retailers try to develop their services as per market-based, customer-driven, and value-desired characteristics (Hsu and Lin, 2006). All industries also indulge in searching the superior values for customers, and retailing is not an exception. Therefore, customers' value perception and design requirements are needed. Customers' value perception formed in chapter 4 and retailers' design requirements formed in chapter 5. Further, the purpose of this chapter is to prioritize the design requirements based on customers' value perception. For this purpose, quality function deployment is used as a method. The house of quality (HOQ) framework is used here as the most recognized form of QFD. The framework of the house of quality and associated six elements are discussed in section 3.3.

The ten customers' perceived values viz. Product availability, ease of return, shopping aids and convenience, product accessibility, product information, assortment, communication, store environment, Personnel, Perceived Price are taken as customer perceived values. Keeping in view of these stated demands, the nine design requirements as Customer value perception, demand chain management, collaboration among supply chain partners, in-store logistics performance, merchandise management, technology adoption, information, and communication are technology; human resource

management and retail management are considered. Based on these customer requirements and design requirements, the development of QFD follows the various steps as:

Step *1* In this step, customer requirements are identified from the results of exploratory factor analysis. This is also known as Voice of Customer (VOC).

Step 2 Priorities set to the customer requirements (Customer perceived services items) using a number that reflects the importance of customer requirements.

Step 3 In this step, the relationship among CRs assessed through a symbolic scale as strong (● = 0.8), moderate (Θ = 0.6), weak (○ = 0.4) and very weak (Δ = 0.2). This matrix is developed with customer/expert help and placed at the left-most side of HOQ.

Step 4 This step contains the list of DRs identified from the results of the ISM methodology.

Step 5 In this step, the relationship among DRs assessed through symbolic scales as the scale used in step 3. This matrix is developed with the help of expert discussion and placed at the roof of HOQ.

Step 6 This step shows the relationships between CRs and DRs that follow the construct using each row's interaction with each column. It shows the strength of the relationship between each CR with each DR. This portion is filled by experts' discussion.

Step 7 A revised rating is calculated from the left matrix using equation 6.1, previously assessed by Debata et al. (2012), and placed at the right side of HOQ.

$$Y_i = X_i + \frac{1}{n-1}\sum_{j\neq i}^{n} A_{ij}X_j \quad \text{... 6.1}$$

Yi is the revised customer rating. X_i is the initial customer rating for customer requirements ***i,*** and A_{ij} shows the interrelationship between customer requirement ***i*** with customer requirement ***j***. X_j is the initial customer rating for customer requirements ***j,*** and ***n*** is the number of customer requirements.

Step 8 The initial rating for each design requirement is calculated using equation 6.2 and placed at the first row of the design matrix (bottom of HOQ in figure 2).

$$Z_k = \frac{1}{n}\sum_{i}^{n} B_{ki}Y_i \quad \text{... 6.2}$$

Zk is the initial design requirement rating for design requirement k, n is the number of customer requirements. B_{ki} shows the relationship between design requirement ***k*** with customer requirement ***i,*** and Y_i is the revised customer requirement rating**.**

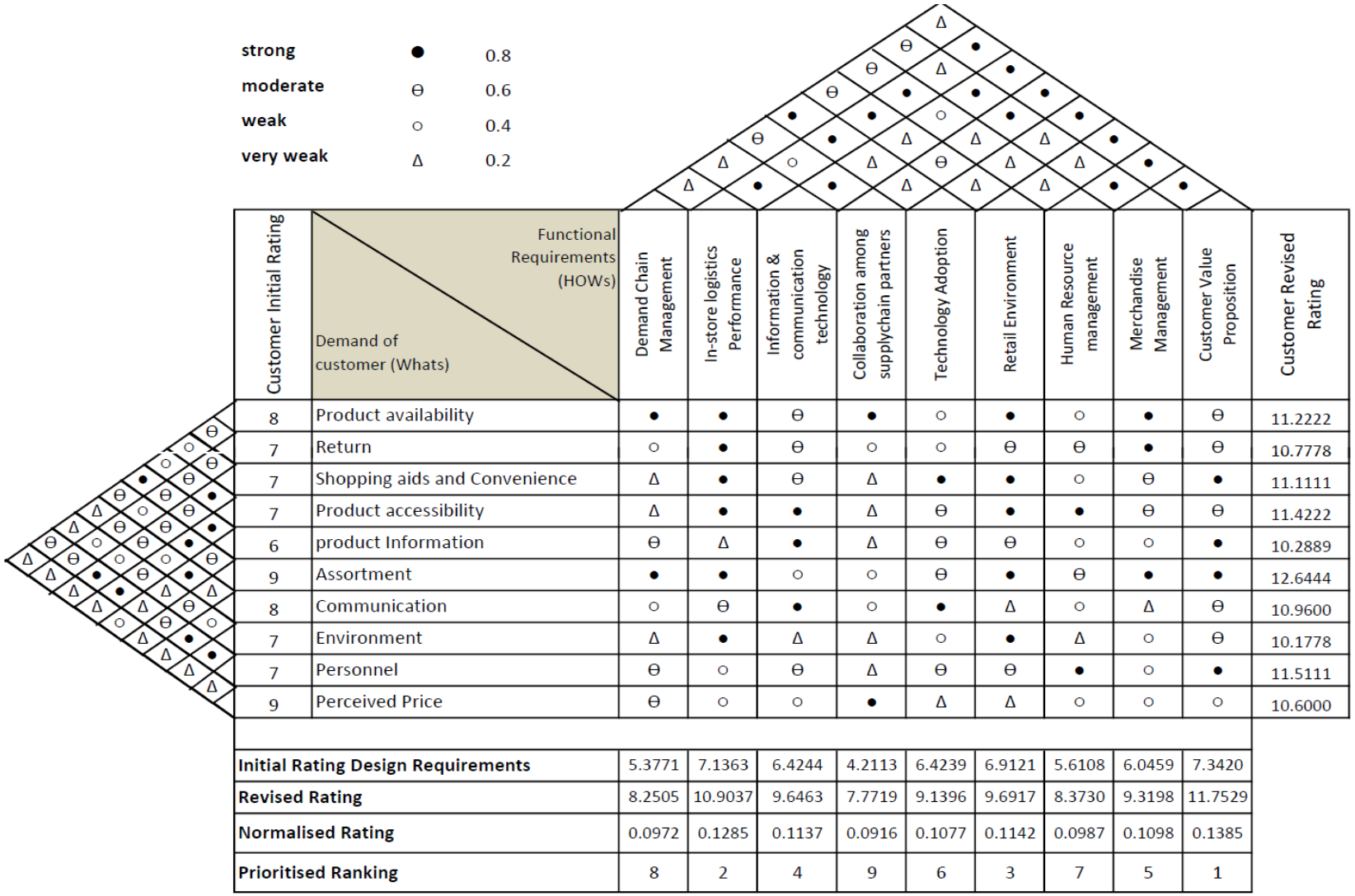
Step 9 A revised rating is calculated using equation 6.3 and placed in the second row of the design matrix.

$$R_k = Z_k + \frac{1}{m-1}\sum_{l\neq k}^{m} C_{kl}Z_l \quad \text{... 6.3}$$

Rk is the revised design requirement rating. Z_k is the initial customer rating for design requirement ***k,*** and C_{kl} shows the interrelationship between design requirement ***k*** with design requirement ***l***. Here, ***l*** is ranging from **1** to ***m*** except ***k*** value. Z_l is the initial design rating for design requirements ***l,*** and ***m*** is the number of design requirements.

Step 10 The final ratings have been found after the normalization of revised design requirements. The final DRs rating is tabulated in the third row at the bottom of HOQ. DRs can be prioritized based on final ratings.

Based on these steps as mentioned earlier and experts'/customers' suggestions, HOQ is developed, shown in figure 6.1.



Customer Initial Rating	Demand of customer (Whats) \ Functional Requirements (HOWs)	Demand Chain Management	In-store logistics Performance	Information & communication technology	Collaboration among supplychain partners	Technology Adoption	Retail Environment	Human Resource management	Merchandise Management	Customer Value Proposition	Customer Revised Rating
8	Product availability	●	●	ϴ	●	○	●	○	●	ϴ	11.2222
7	Return	○	●	ϴ	○	○	ϴ	ϴ	●	ϴ	10.7778
7	Shopping aids and Convenience	Δ	●	ϴ	Δ	●	●	○	ϴ	●	11.1111
7	Product accessibility	Δ	●	●	Δ	ϴ	●	●	ϴ	ϴ	11.4222
6	product Information	ϴ	Δ	●	Δ	ϴ	ϴ	○	○	●	10.2889
9	Assortment	●	●	○	○	ϴ	●	ϴ	●	●	12.6444
8	Communication	○	ϴ	●	○	●	Δ	○	Δ	ϴ	10.9600
7	Environment	Δ	●	Δ	Δ	○	●	Δ	○	ϴ	10.1778
7	Personnel	ϴ	○	ϴ	Δ	ϴ	ϴ	●	○	●	11.5111
9	Perceived Price	ϴ	○	○	●	Δ	Δ	○	○	○	10.6000
Initial Rating Design Requirements		5.3771	7.1363	6.4244	4.2113	6.4239	6.9121	5.6108	6.0459	7.3420	
Revised Rating		8.2505	10.9037	9.6463	7.7719	9.1396	9.6917	8.3730	9.3198	11.7529	
Normalised Rating		0.0972	0.1285	0.1137	0.0916	0.1077	0.1142	0.0987	0.1098	0.1385	
Prioritised Ranking		8	2	4	9	6	3	7	5	1	

Figure 6.1: Customer value perception: House of Quality

The result showed that the *customer value proposition* is the most important factor in the prioritized design requirement. In contrast, the *collaboration among supply chain partners* is the least important factor in the prioritized design requirement concerning customer value perceptions.

6.3 Theoretical implications

The theoretical implications of this study lie in three aspects: (i) In the context of apparel retail setting to strengthen the factors to formulate the strategy and to achieve the customer satisfaction, (ii) through this approach; it is possible to find the potential factors for positioning strategy of retail store thus it helps management in terms of feasible implementation of strategy, (iii) it is also possible to illustrate the complementarily in strategies to enable the management to leverage them and implement a different kind of strategies simultaneously.

6.4 Managerial implications

Regarding the managerial implications, the integrated model shows the important customer perceived values and corresponding design requirements to implement the positioning strategies in Indian retail firms. It will help the managers, decision-makers, and researchers understand customer-perceived values and the relevant design requirements for implementing positioning strategies. This model helps them to implement their positioning strategies effectively and efficiently in economically feasible conditions.

6.5 Conclusion

Customers, nowadays, are more aware of products and services offered by retailers and need more value for their money. They also want to save their shopping time, i.e., product searching time and transaction time. It is not possible to limit the customer requirements in the case of the retail sector. Trappey et al. (1995) stated that the

customer value perception could be used at the place of customer requirements. It is tough to find the accurate requirement of customers. Therefore, the identification of customer requirements is the central concern for apparel retailers. In this chapter, a total of 39 items of customer requirements are identified, and 38 items are finalized based on factor analysis. Further, these 38 items are grouped into the ten most important factors.

Further, the design requirements are identified by keeping these customer requirements. These design requirements are identified from the literature review and experts' suggestions. These design requirements are prioritized through QFD. These priorities help the retailers find the most urgent improvement in design requirements to satisfy a high level of customers and achieve a competitive position in their minds. The sequence of priority is as follows: customer value proposition, in-store logistics performance, retail environment, information and communication technology, merchandise management, technology adoption, human resource management, demand chain management, and collaboration among supply chain partners.

The result supports Kambil et al. (1996), who argued that value proposition is the first step in innovation. What does the innovation do for the customers? Value proposition helps the retailer innovate and develop the values that truly satisfy the customers (Lindicˇ and da Silva, 2011; Payne and Frow, 2005). Firms that spend on customer value proposition can invest less in promotional activities like advertisements (Mishra et al., 2020). The research suggests that retailers should focus on the customer value proposition. This research suggests the priority of design requirements based on customer perceived value. Therefore, DCM and collaboration among supply chain partners are at last on the priority list but not the least. These have the importance of running any retail business, but the customer can not perceive these services directly as

the priority list was based on customer requirements. Therefore, the validity and reliability of design requirements related to customer value perception are not obtained.

CHAPTER 7

ANALYSING THE IMPLEMENTATION BARRIERS OF POSITIONING STRATEGY: A RESOURCE BASED PERSPECTIVE FOR APPAREL RETAILING

The customer perceived value, design requirements, and the priority of design requirements were discussed in previous chapters. These priority requirements can help the decision-makers and managers to implement the competitive positioning strategy. For any strategy implementation, the most crucial factor that is known as resources cannot be ignored. Proper utilization of resources helps the firm to improve productivity and during strategy implementation. If the firm fails to identify and utilize the resources, it can be detrimental to the firm. This chapter discusses the resources (in section 2.4) and classifies them into cause and effect groups.

7.1 Introduction

In the Indian apparel retailing sector, there is a high level of competition to attract and retain customers. Retailers want to fulfill the requirement of customers by offering the best services to their contenders. Cost control is the traditional way to get more revenue, but it does not give any reason to attract the customer. In contrast, a firm's resource-based view can help attract customers using theirs under-controlled resources. Therefore, a positioning strategy is required to enhance the firms' performance using firms' resources. Positioning strategies directly impact sales performance, profits, market share, consumer perception, and return on investment (Blankson and Crawford, 2012; Kalra and Goodstein, 1998). Amonini et al. (2010) consider competitive positioning attributes of service firms by focusing on utilizing relationships, service quality, brand reputation, and value. For retail, Service is perceived to be the most distinguishing feature of competitive positioning (Harmen Oppewal et al., 2011).

Chapter 5 showed nine factors to strengthen the positioning strategy in terms of enhanced service performance and value creation. This study extends the work with a focus on significant barriers in the way of strategy implementation.

According to Grewal et al. (2010, p. 29), those retailers who try to achieve value differentiation and cost control all together will succeed in the coming decade. The CPS is essential for retailers, not only for their survival but for growth too. According to Ranjbar and Shirazi (2014), strategy implementation is the central challenge to firms and managers in recent decades. Many small retailers offer similar products to their customers; due to this reason, differentiation is rarely achieved (Hooley et al., 2008, p. 302). Therefore, store position has more importance than product position. DiMingo (1988) proposed two types of positioning: firm-oriented or market positioning and psychological positioning or customer-oriented. In the current scenario, the organized retailer mainly focuses on the psychological positioning with their depth product variety and better service. Thus, local retailers face two-sided competition: from organized retailers and the other is from their counterparts. Therefore, to establish a competitive position in the market, it must know the strengthening factors and the barriers to implementing the CPS.

The implementation of the CPS requires the identification of critical barriers. These barriers are known as competitive positioning implementation barriers (CPIBs). The basic approach of positioning is to manipulate the existing things rather than creating new and different ones. Therefore, some internal factors and some outside factors hinder the implementation of the firm's positioning strategy. In the present research work, there are the following two objectives:

RQ1: To identify the CPIBs for effective implementation of CPS in apparel retailing firms.

RQ2: To uncover the causal relationships among the identified CPIBs and classify them into cause and effect for CPS in the apparel retailing firm.

A Grey-DEMATEL (GDEMATEL) has been used to quantify the effects of one factor over others. This method is applicable in a wide variety of managerial and decision-making environments. This research can help for future research in building resilient positioning of retail stores. The study structure is as follows: It starts with introducing the barriers of competitive positioning, followed by the literature review on CPIBs concerning the Indian apparel retail firms' case. Then, the discussions on establishing the variables and about the GDEMATEL approach. It ends with brief discussions on findings, Sensitivity analysis, and in the end conclusion with managerial implications and future scope has been explained.

7.1.1 Gap analysis and research highlights

Fashion retailers typically exhibit short life cycles, high volatility, and an unpredictable environment (Nucamendi-Guillén et al., 2018). According to Ranjbar and Shirazi (2014), strategy implementation is the central challenge to firms and managers in recent decades. Implementing the CPS, identifying barriers, analyzing relationships, and the dependencies of barriers can make the decision complex. Therefore, DEMATEL methodology can be used to analyze the interrelationship by considering the strength of relationships and interdependencies (Zhu et al., 2015) with small-sized samples (Govindan and Chaudhuri, 2016). However, this method can suffer from human biases, incomplete information, and uncertainty (Luthra et al., 2018). To overcome this problem, the Grey theory has been applied. This theory can make better decisions in an unpredictable environment (Cui, et al., 2019; Rajesh and Ravi, 2015). This study may

be one of the first to consider the implementation barriers of CPS and classification of barriers based on RBT and Dynamic capability in the Indian apparel retailing context.

7.2 Methodology

For the objectives mentioned earlier, GDEMATEL is used. The overview diagram and the steps involved in this method have been discussed in section 3.4. In this chapter, the application of GDEMATEL is used to classify the cause and effect factors.

7.2.1 Application of the Grey-DEMATEL

This methodology is used to investigate the barriers of CPS implementation in the apparel retailing context. A total of 20 experts from different reputed stores were contacted and requested to participate in the survey. Four experts with high qualifications and tremendous decision-making skills were formed. They have more than ten years of experience and worked as a senior manager in different famous apparel retailing firms. The list of barriers was presented before them, and asked to add or delete any of the barriers they were thought essential/not essential in implementing the CPS in apparel retailing firms. In response, experts agreed on the literature-based 17 barriers (Table 2.3) and did not modify the list with any deletion or addition. Therefore, all 17 barriers were selected for CPS implementation in apparel retailing firms. After finalizing the barriers, experts were asked to add barriers if needed and evaluated CPS implementation barriers' direct effect (Appendix C). They evaluated one barrier over another for their direct relation using a linguistic scale (see Table 7.1).

Table 7.1: Scale and values for linguistic assessment

Linguistic assessment	No influence	Very low influence	Low influence	Strong influence	Very strong influence
Scale	**0**	**1**	**2**	**3**	**4**
Associated grey values	(0, 0)	(0, 0.25)	(0.25, 0.5)	(0.5, 0.75)	(0.75, 1)

In ***step 2,*** experts' opinion has been taken in integer scale (Table 7.2) and need to be converted in Grey values with table 7.1. The converted Grey relation matrix of each expert is denoted by ($[\otimes X_{ij}^{1}]$, $[\otimes X_{ij}^{2}]$, $[\otimes X_{ij}^{3}]$and $[\otimes X_{ij}^{4}]$).

Table 7.2: Initial relation matrix from all experts

		B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17
Expert 1	**B1**	0	1	4	4	4	4	3	4	0	4	4	0	0	0	3	0	2
	B2	4	0	0	3	0	0	0	4	0	0	0	0	2	0	0	0	3
	B3	0	0	0	0	3	3	4	0	4	3	3	4	0	0	3	0	0
	B4	0	1	0	0	4	3	4	0	4	4	4	0	0	4	3	2	4
	B5	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	B6	0	0	0	4	3	0	3	0	3	4	3	0	0	0	3	0	0
	B7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B8	4	0	3	4	4	4	4	0	4	4	3	3	3	3	3	3	4
	B9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
	B10	0	0	0	0	3	0	0	0	3	0	3	0	0	0	0	0	3
	B11	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0
	B12	0	0	3	3	3	3	4	0	3	3	2	0	4	4	0	0	3
	B13	0	0	0	3	4	0	3	0	3	3	4	3	0	0	4	0	3
	B14	0	0	0	0	4	0	3	0	0	0	0	0	3	0	0	0	0
	B15	0	0	0	0	3	0	0	0	0	3	3	0	0	0	0	0	4
	B16	0	0	0	4	4	3	2	0	4	0	4	0	4	4	3	0	4
	B17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Expert 2	**B1**	0	3	3	3	3	3	1	3	1	2	2	0	0	0	4	0	3
	B2	3	0	0	1	0	0	1	2	1	1	0	0	2	0	0	0	3
	B3	2	0	0	0	2	2	3	3	4	3	3	4	0	0	3	0	0
	B4	0	1	0	0	4	3	4	0	4	4	4	0	0	4	3	2	4
	B5	1	1	1	2	0	0	4	0	0	0	0	0	0	0	0	0	0
	B6	0	0	0	4	3	0	3	0	3	4	2	0	0	0	3	0	0
	B7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B8	4	0	3	4	4	4	4	0	4	4	3	3	3	0	3	3	2
	B9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
	B10	0	0	0	0	3	0	0	0	3	0	3	0	0	0	0	0	3
	B11	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0
	B12	0	0	3	3	3	3	4	0	3	3	4	0	4	4	0	0	3
	B13	0	0	0	3	4	0	3	0	3	3	4	3	0	0	4	0	3
	B14	0	0	0	0	4	0	3	0	0	0	0	0	3	0	1	0	0
	B15	0	0	0	0	3	0	0	0	0	3	3	0	0	0	0	0	3
	B16	0	0	0	3	3	4	4	0	4	0	4	0	4	4	3	0	3
	B17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Expert 3	**B1**	0	0	4	2	4	4	3	4	0	4	4	0	0	0	3	0	3
	B2	4	0	2	2	2	2	2	4	0	0	0	0	2	0	0	0	3
	B3	0	0	0	0	3	3	4	0	4	3	3	4	0	0	3	0	2
	B4	0	0	0	0	4	3	4	0	4	4	4	0	0	4	3	2	2
	B5	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2
	B6	0	0	0	4	3	0	3	0	3	4	2	0	0	0	3	0	3
	B7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	B8	4	2	3	4	4	4	4	0	4	4	3	3	3	0	3	3	2
	B9	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1
	B10	1	0	0	0	3	3	3	3	3	0	3	0	0	0	0	0	3
	B11	1	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0
	B12	1	0	3	3	3	3	4	0	3	3	2	0	4	4	0	0	3
	B13	1	0	0	3	4	0	3	0	3	3	4	3	0	0	4	0	3
	B14	1	0	0	0	4	0	3	0	0	0	0	0	3	0	0	0	0
	B15	1	0	0	0	3	0	0	0	0	3	3	0	0	0	0	0	3
	B16	0	0	0	4	4	3	3	0	4	0	4	0	4	4	3	0	3
	B17	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Expert 4	**B1**	0	1	4	4	4	4	3	4	0	4	4	0	2	0	3	2	3
	B2	4	0	0	3	0	0	0	4	0	0	0	0	2	0	0	0	4
	B3	0	0	0	0	3	3	4	0	4	3	3	4	0	0	3	0	0
	B4	0	1	0	0	4	3	4	0	4	4	4	0	0	4	3	2	4
	B5	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	B6	0	0	0	4	3	0	3	0	3	4	2	0	0	0	3	0	0
	B7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B8	2	3	3	4	4	3	3	0	2	2	3	1	1	2	3	3	4
	B9	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
	B10	0	0	0	0	3	0	0	0	3	0	3	0	0	0	0	0	3
	B11	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0
	B12	0	0	3	3	3	3	4	0	3	3	2	0	4	4	0	0	3
	B13	0	0	0	3	4	0	3	0	3	3	4	3	0	0	4	1	3
	B14	0	0	0	0	4	0	3	0	0	0	0	0	3	0	0	0	0
	B15	0	0	0	0	3	0	0	0	0	3	3	0	0	0	0	0	3
	B16	0	0	0	4	3	4	4	0	4	0	4	0	4	4	3	0	3
	B17	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0

In ***step 3,*** equal weights allocated to each expert, and the average Grey relation matrix $\left[\otimes\widetilde{X}_{ij}\right]$ obtained from equation 3.3. This matrix is illustrated in table 7.3.

Table 7.3: Average grey relation matrix for barriers

	B1	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**B8**	**B9**	**B10**	**B11**	**B12**	**B13**	**B14**	**B15**	**B16**	**B17**
B1	0.000	0.125	0.688	0.563	0.688	0.688	0.375	0.688	0.000	0.625	0.625	0.000	0.063	0.000	0.563	0.063	0.438
	0.000	0.313	0.938	0.813	0.938	0.938	0.625	0.938	0.063	0.875	0.875	0.000	0.125	0.000	0.813	0.125	0.688
B2	0.688	0.000	0.063	0.313	0.063	0.063	0.063	0.625	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.563
	0.938	0.000	0.125	0.563	0.125	0.125	0.188	0.875	0.063	0.063	0.000	0.000	0.500	0.000	0.000	0.000	0.813
B3	0.063	0.000	0.000	0.000	0.438	0.438	0.688	0.125	0.750	0.500	0.500	0.750	0.000	0.000	0.500	0.000	0.063
	0.125	0.000	0.000	0.000	0.688	0.688	0.938	0.188	1.000	0.750	0.750	1.000	0.000	0.000	0.750	0.000	0.125
B4	0.000	0.000	0.000	0.000	0.750	0.500	0.750	0.000	0.750	0.750	0.750	0.000	0.000	0.750	0.500	0.250	0.625
	0.000	0.188	0.000	0.000	1.000	0.750	1.000	0.000	1.000	1.000	1.000	0.000	0.000	1.000	0.750	0.500	0.875
B5	0.000	0.000	0.000	0.063	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.063
	0.063	0.063	0.063	0.125	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.125
B6	0.000	0.000	0.000	0.750	0.500	0.000	0.500	0.000	0.500	0.750	0.313	0.000	0.000	0.000	0.500	0.000	0.125
	0.000	0.000	0.000	1.000	0.750	0.000	0.750	0.000	0.750	1.000	0.563	0.000	0.000	0.000	0.750	0.000	0.188
B7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.063
B8	0.625	0.188	0.500	0.750	0.750	0.688	0.688	0.000	0.625	0.625	0.500	0.375	0.375	0.250	0.500	0.500	0.500
	0.875	0.313	0.750	1.000	1.000	0.938	0.938	0.000	0.875	0.875	0.750	0.625	0.625	0.375	0.750	0.750	0.750
B9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000
	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.063
B10	0.000	0.000	0.000	0.000	0.500	0.125	0.125	0.125	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
	0.063	0.000	0.000	0.000	0.750	0.188	0.188	0.188	0.750	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.750
B11	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.063	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
B12	0.000	0.000	0.500	0.500	0.500	0.500	0.750	0.000	0.500	0.500	0.375	0.000	0.750	0.750	0.000	0.000	0.500
	0.063	0.000	0.750	0.750	0.750	0.750	1.000	0.000	0.750	0.750	0.625	0.000	1.000	1.000	0.000	0.000	0.750
B13	0.000	0.000	0.000	0.500	0.750	0.000	0.500	0.000	0.500	0.500	0.750	0.500	0.000	0.000	0.750	0.000	0.500
	0.063	0.000	0.000	0.750	1.000	0.000	0.750	0.000	0.750	0.750	1.000	0.750	0.000	0.000	1.000	0.063	0.750
B14	0.000	0.000	0.000	0.000	0.750	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000
	0.063	0.000	0.000	0.000	1.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.063	0.000	0.000
B15	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.563
	0.063	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.750	0.000	0.000	0.000	0.000	0.000	0.813
B16	0.000	0.000	0.000	0.688	0.625	0.625	0.563	0.000	0.750	0.000	0.750	0.000	0.750	0.750	0.500	0.000	0.563
	0.000	0.000	0.000	0.938	0.875	0.875	0.813	0.000	1.000	0.000	1.000	0.000	1.000	1.000	0.750	0.000	0.813
B17	0.188	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.125	0.000
	0.375	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000

***B1** is the implementation barrier, and in relation, its Grey lower average limit value is in the upper box, and upper average limit value is in the lower box; similarly, we read all values in relation.

In ***step 4,*** the final crisp relation matrix obtained with the average Grey relation matrix (table 7.3) using equation no. 3.5 to 3.10. The obtained matrix is illustrated in table 7.4.

Table 7.4: Final crisp relation matrix for barriers

	B1	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**B8**	**B9**	**B10**	**B11**	**B12**	**B13**	**B14**	**B15**	**B16**	**B17**
B1	0.000	0.242	0.885	0.725	0.875	0.885	0.500	0.885	0.004	0.800	0.800	0.000	0.070	0.000	0.725	0.072	0.590
B2	0.885	0.000	0.070	0.425	0.070	0.070	0.083	0.809	0.004	0.004	0.000	0.000	0.350	0.000	0.000	0.000	0.743
B3	0.070	0.000	0.000	0.000	0.575	0.582	0.875	0.137	0.950	0.650	0.650	0.950	0.000	0.000	0.650	0.000	0.071
B4	0.000	0.070	0.000	0.000	0.950	0.658	0.950	0.000	0.950	0.950	0.950	0.000	0.000	0.950	0.650	0.375	0.819
B5	0.004	0.010	0.004	0.070	0.000	0.000	0.950	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.071
B6	0.000	0.000	0.000	0.950	0.650	0.000	0.650	0.000	0.650	0.950	0.425	0.000	0.000	0.000	0.650	0.000	0.138
B7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
B8	0.809	0.277	0.658	0.950	0.950	0.885	0.875	0.000	0.800	0.800	0.650	0.500	0.500	0.292	0.650	0.688	0.667
B9	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.004
B10	0.004	0.000	0.000	0.000	0.650	0.137	0.136	0.137	0.650	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.667
B11	0.004	0.000	0.000	0.000	0.950	0.000	0.000	0.000	0.000	0.950	0.000	0.000	0.000	0.000	0.000	0.000	0.000
B12	0.004	0.000	0.658	0.650	0.650	0.658	0.950	0.000	0.650	0.650	0.500	0.000	0.950	0.950	0.000	0.000	0.667
B13	0.004	0.000	0.000	0.650	0.950	0.000	0.650	0.000	0.650	0.650	0.950	0.650	0.000	0.000	0.950	0.005	0.667
B14	0.004	0.000	0.000	0.000	0.950	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.650	0.000	0.004	0.000	0.000
B15	0.004	0.000	0.000	0.000	0.650	0.000	0.000	0.000	0.000	0.650	0.650	0.000	0.000	0.000	0.000	0.000	0.743
B16	0.000	0.000	0.000	0.875	0.800	0.809	0.725	0.000	0.950	0.000	0.950	0.000	0.950	0.950	0.650	0.000	0.743
B17	0.250	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.161	0.000

In ***step 5,*** normalized direct, crisp relation matrix [z] obtained using equation 3.11. In the ***next step,*** Total relation matrix T obtained with the help of equation 3.12. The obtained matrix is illustrated in table 7.5.

Table 7.5: Total relation matrix for implementation barriers of CPS

	B1	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**B8**	**B9**	**B10**	**B11**	**B12**	**B13**	**B14**	**B15**	**B16**	**B17**
B1	0.015	0.029	0.101	0.104	**0.163**	**0.120**	0.113	0.099	0.051	**0.144**	**0.138**	0.016	0.018	0.017	0.108	0.020	0.106
B2	0.103	0.006	0.024	0.070	0.052	0.034	0.045	0.094	0.027	0.038	0.037	0.010	0.045	0.012	0.028	0.012	0.107
B3	0.010	0.001	0.009	0.018	0.101	0.073	**0.123**	0.017	**0.122**	0.102	0.102	0.101	0.012	0.012	0.077	0.003	0.034
B4	0.004	0.008	0.001	0.014	**0.147**	0.075	**0.132**	0.003	**0.118**	**0.126**	**0.130**	0.001	0.012	0.104	0.078	0.041	0.108
B5	0.001	0.001	0.000	0.007	0.001	0.001	0.099	0.000	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.000	0.008
B6	0.001	0.001	0.000	0.101	0.100	0.009	0.091	0.002	0.087	**0.122**	0.074	0.000	0.001	0.010	0.075	0.005	0.039
B7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
B8	0.092	0.033	0.082	**0.139**	**0.192**	**0.129**	**0.169**	0.015	**0.142**	**0.155**	**0.146**	0.065	0.073	0.059	0.111	0.080	**0.129**
B9	0.000	0.000	0.000	0.000	0.007	0.000	0.001	0.000	0.001	0.007	0.068	0.000	0.000	0.000	0.000	0.000	0.001
B10	0.004	0.001	0.001	0.004	0.080	0.017	0.026	0.015	0.071	0.011	0.076	0.001	0.001	0.001	0.003	0.002	0.073
B11	0.001	0.000	0.000	0.001	0.106	0.002	0.012	0.002	0.007	0.100	0.008	0.000	0.000	0.000	0.000	0.000	0.008
B12	0.004	0.001	0.070	0.085	**0.127**	0.082	**0.149**	0.003	0.104	0.108	0.097	0.014	0.108	0.109	0.027	0.005	0.098
B13	0.003	0.001	0.005	0.076	**0.142**	0.012	0.100	0.002	0.089	0.102	**0.132**	0.068	0.008	0.015	0.106	0.005	0.098
B14	0.001	0.000	0.000	0.006	0.108	0.001	0.084	0.000	0.006	0.007	0.009	0.005	0.068	0.001	0.008	0.000	0.008
B15	0.003	0.000	0.000	0.001	0.080	0.002	0.010	0.001	0.006	0.075	0.073	0.000	0.000	0.000	0.001	0.002	0.083
B16	0.003	0.001	0.001	0.109	**0.146**	0.093	**0.123**	0.001	**0.127**	0.048	**0.143**	0.007	0.107	0.110	0.092	0.006	0.108
B17	0.026	0.002	0.003	0.005	0.007	0.005	0.005	0.003	0.003	0.005	0.006	0.001	0.002	0.002	0.004	0.017	0.005

In ***step 7,*** R_i and C_j be calculated using the elements of matrix **T** and equations 3.13 and 3.14. R represents the sum of row elements and is defined as 15 x 1 vector and C represents the sum of column elements and is defined as 1 x 15 vectors. R_i summarises the direct and indirect effects of barrier i have on other barriers, whereas Cj summarises the direct and indirect effects of barrier j received from other barriers.

In ***step 8,*** after getting the R_i and C_j, cause and effect parameters be computed as ($R_i + C_j$) and ($R_i - C_j$), respectively. Table 7.6 showed the value of R, C, R + C, and R – C with the identification of cause and effect.

Table 7.6: Cause/effect parameters for barriers of competitive positioning implementation

Barriers	Ri	Cj	Ri + Cj	Ri - Cj	Cause/effect
B1	1.361	0.272	**1.633**	1.089	**cause**
B2	0.743	0.085	**0.829**	0.658	**cause**
B3	0.915	0.299	**1.213**	0.616	**cause**
B4	1.102	0.741	**1.843**	0.362	**cause**
B5	0.125	1.558	**1.683**	**-1.433**	effect
B6	0.719	0.654	**1.374**	0.065	**cause**
B7	0.000	1.282	**1.283**	**-1.282**	effect
B8	1.810	0.256	**2.066**	1.554	**cause**
B9	0.085	0.962	**1.047**	**-0.876**	effect
B10	0.387	1.151	**1.538**	**-0.763**	effect
B11	0.248	1.240	**1.488**	**-0.993**	effect
B12	1.192	0.290	**1.482**	0.901	**cause**
B13	0.965	0.456	**1.420**	0.509	**cause**
B14	0.311	0.454	**0.765**	**-0.142**	effect
B15	0.338	0.720	**1.058**	**-0.381**	effect
B16	1.228	0.200	**1.428**	1.027	**cause**
B17	0.100	1.011	**1.111**	**-0.911**	effect

In the end, the causal diagram was developed with the help of (R + C) and (R – C) values. There is a large number of barriers to relation. Therefore, the selection of potential relations is essential and neglects the least effective relation. The threshold value can overcome this problem. For matrix T, the mean is 0.040 and the standard deviation 0.050. The threshold value can be calculated by adding the Mean of elements of matrix T and standard deviation (mean (μ) + standard deviation (σ) = 0.090). In this

study, the obtained threshold is responsible for many relations that are tough to plot. Rajesh and Ravi (2015) used the 1.5 times of standard deviation in case of large relations. To overcome this problem and find potential relations, the threshold value was set by adding 1.5 times of standard deviation with the mean. New threshold value is ($\mu + 1.5 \times \sigma = 0.115$). This new threshold is used to plot the relationship, but it could not neglect the original threshold (0.090) relations between barriers. Further, in figure 7.1, the relations meeting or exceeding the threshold value (0.115) are underlined in the matrix T and then plot the relationship accordingly.

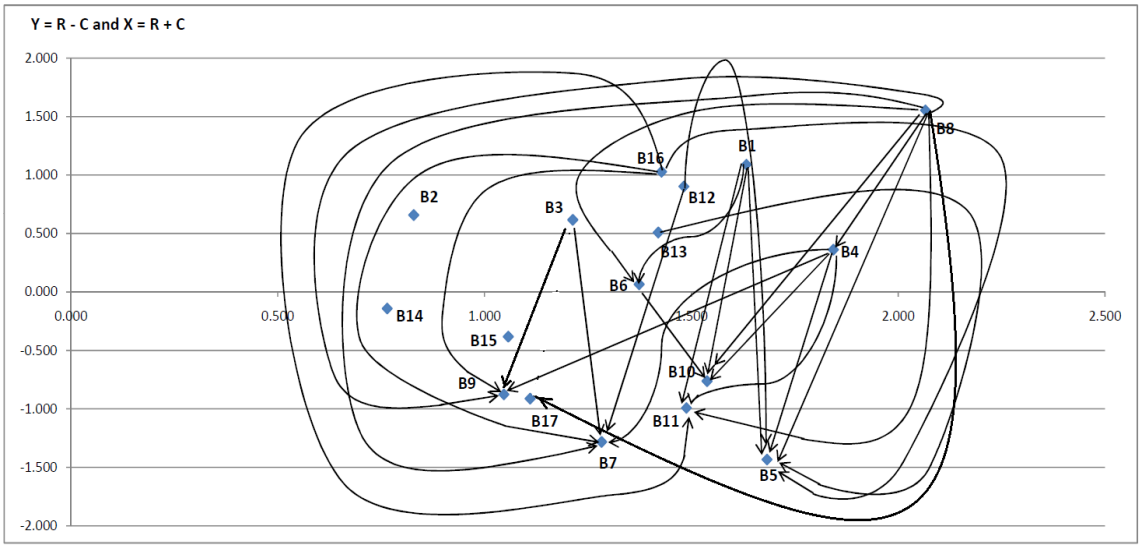


Figure 7.1: Digraph showing relations among barriers of CPS implementation

7.3 Results and discussion

In this section, the results were discussed based on prioritized barriers, checked the consistency with previous research, and then discussed the net cause and effect relations. At the end of this section, the correlation between barriers has been discussed. The barriers have been prioritized as per importance based on $R_i+C_j \; \forall \; i=j$ values. The prioritized value is as follows, Lack of management commitment and support (B8) > Lack of Education and Training to the Employee (B4) > Lack of Responsiveness (B5) > Unclear Organizational Objective (B1) > Lack of Collaboration among Supply Chain

Partners (B10) > Unwillingness to Share Information among Supply Chain Partners (B11) > Lack of Communication (B12) > Lack of Financial Resources (B16) > Lack of New Technology (B13) > Lack of Continuous Improvement Culture (B6) > Poor In-store Operational Performance (B7) > Lack of Employee Engagement (B3) > High Cost Associated with new Strategy (B17) > Lack of Demand Chain Practice (B15) > Lack of Corporate Social Responsibility (B9) > Lack of Understanding of Competitive Positioning Benefits (B2) > Lack of Technical Expertise (B14). In the priority list, the top ten barriers (B8 to B6) are from intangible resources and from dynamic capabilities except for B16. That shows that in strategy implementation, intangible resources and dynamic capabilities play a major role. To implement any strategy or adopt any technology, the availability of financial resources plays a major role. This result supports the previous study (Xia et al., 2015). Further, the result shows that the basic capabilities (skills) have less importance in strategy implementation.

Having the *management commitment and support* and *education and employee training* is the dynamic capability which is the most prominent factors not surprising. The result supports Bai and Sarkis (2013) suggestion by which top management support is the most important factor for any strategy implementation. Responsiveness is the ability to respond to customer requirements timely. Barnes and Lea-Greenwood (2010) argued that a fast fashion environment required being fully responsive. Iberahim et al. (2016) stated that responsiveness is the primary source of great service quality and depends on advanced technology. The relation between new technology and responsiveness in figure 7.1 supports Iberahim et al. (2016) argument. Holsapple and Joshi (2001) argued that if the organizational objective is not clear, it can be detrimental for organizational strategy implementation and the finding of the research study also supports this argument. Collaboration among supply chain partners can be potentially

responsible for the shelf replenishment, although this cannot perceive by the customer directly most critical strategic part of apparel retailing. All top barriers, those discussed above, support the previous findings.

The cause (driver) barriers obtained from the table 7.6 based on positive (R_i - C_j) $\forall$ i=j values and sorted as, B8>B1>B16>B12>B2>B3>B13>B4>B6. In the causal group, the influential factor (R_i) is greater than influenced factor (C_j). Thus, lack of management commitment and support (B8) is the most important barrier with the highest (R_i - C_j) values. From figure 7.1, it is depicted that B8 initiates the effect of B4, B5, B6, B7, B9, B10, and B11. The results exemplify the management commitment and support is the most important factor during the implementation of CPS. After B8, the next potential barrier is Unclear Organisation objectives (B1), followed by B16, B12, B2, B3, B13, B4, and B6. The causal barriers in the way of CPS implementation should be eradicated first. The reason behind eradication first is that these barriers play a significant role and initiate other barriers.

The effect (dependent) barriers obtained from table 7.6 based on negative (R_i - C_j) $\forall$ i=j values and sorted as, B14>B15>B10>B9>B17>B11>B7>B5. These barriers may be the last one to eradicate but not necessarily less important since many causal barriers can point to one effect barrier. For example, lack of responsiveness (B5) is the effect group of the barrier for B1, B4, B8, B12, B13, and B16, as seen in figure 7.1. These barriers can eradicate in later stages of CPS implementation.

Correlation between barriers plays a major role in understanding the strategic importance of barriers. To decide the correlations based on a threshold value (= 0.115), cause and effect barriers are considered. In this order, the first barrier B8 demonstrates the highest correlation with other barriers like B4, B5, B6, B7, B9, B10, B11, and B17.

Management commitment and support continually control their resources and actions towards strategy implementation. Bai and Sarkis (2013) argued that management commitment and support are the most important barriers to implementing any strategy. The next barrier is B4, which has the highest correlation with other B5, B7, B9, B10, and B11. Lack of education and employee training is a crucial barrier in implementing strategy because it directly influences employee performance and corporate social responsibility practice (Edinger-Schons et al., 2019). The next barrier is B1, which demonstrates the correlation with other B5, B6, B10, and B11. It is essential to have a clear objective (Seaman, 2018). The next barrier is B16, which demonstrates the correlation with other B5, B7, B9, and B11.

Further, the financial resource is essential for any strategy implementation or new technology adoption. The result shows that lack of financial resources (B16) is the cause for lack of corporate social responsibility (B9), which supports Hasan and Habib (2017) argument. Further, B12 that demonstrates the correlation with other barriers like B5 and B7. The result shows that lack of communication directly impacts lack of responsiveness and lack of poor in-store operational performance. The next barrier is B3 that demonstrates the correlation with other barriers like B7 and B9. The result shows that the lack of employee engagement directly impacts the lack of in-store operational performance and corporate social responsibility. The next barrier is B13 that demonstrates the correlation with other barriers like B5 and B11. For B11, the result supports the Dominguez et al. (2018) argument as the information sharing among supply chain partners depends on the retailer's operational factors. In the end, barrier B6 shows the correlation with Lack of collaboration among supply chain partners (B10). By contrast, B2 is the least correlated because the retailer shows less concern about competitive positioning benefits.

7.4 Sensitivity analysis

Sensitivity analysis is the process of testing the robustness of the obtained result (Rajesh and Ravi, 2015). The initial calculation has been performed by assigning equal weight (using equation 3.3) to all experts. The obtained result can suffer from biases due to the different levels of experience and expertise of experts. One expert is assigned with a higher weight to overcome this problem than the other three in the first scenario and uses equation 3.4 at equation 3.3. Therefore, four scenarios were generated by assigning a higher weight to one expert in each scenario. Table 7.7 shows the expert's weight for each scenario.

Table 7.7: Weights assigned to experts during sensitivity analysis

	Expert 1	**Expert 2**	**Expert 3**	**Expert 4**
Scenario 1	**0.4**	0.2	0.2	0.2
Scenario 2	0.2	**0.4**	0.2	0.2
Scenario 3	0.2	0.2	**0.4**	0.2
Scenario 4	0.2	0.2	0.2	**0.4**

Now, the ranking of barriers for each scenario is shown in figure 7.2. The pattern of all the barriers is similar with a slight deviation which shows that the result is robust.

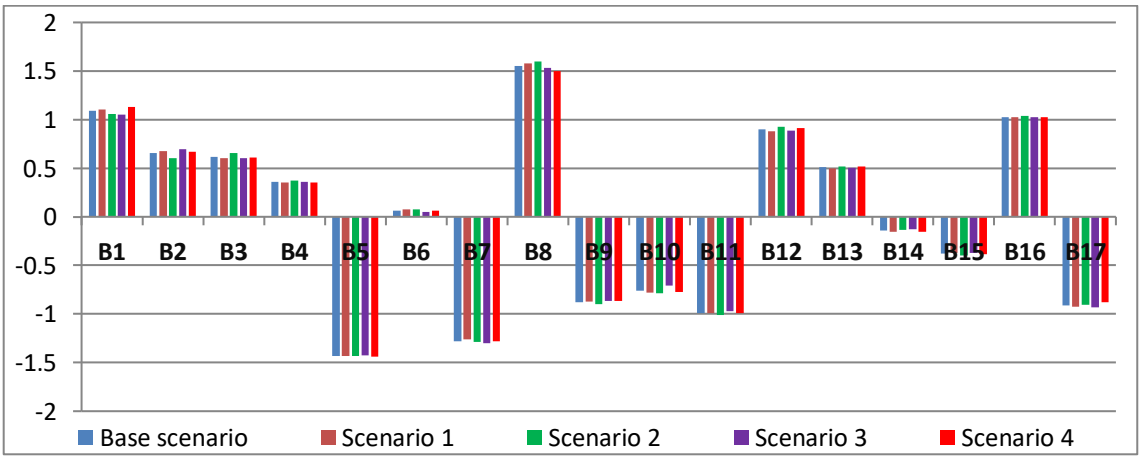


Figure 7.2: Sensitivity analysis

7.5 Theoretical implication

Based on the above discussions, the following theoretical implications are obtained. (1) this study identifies the barriers of poisoning strategy implementation and classifies them in resource-based-view and dynamic capabilities. (2) these barriers are divided into two groups: cause and effect. This helps managers, decision-makers, and researchers to understand the potential barriers and eradicate them to implement the positioning strategies. Finally, (3) the finding shows that for positioning strategy implementation, the most important barrier is the lack of management commitment and support that should be eradicated first. Identifying barriers and classification in RBV and dynamic capabilities for retail stores is one of the first studies in the Indian context.

7.6 Managerial implications

The results of this study can derive some managerial-level implications. Managers should focus on the causal (driver) barriers because it influences the effect (dependent) barriers. This research is highly noteworthy for the apparel retailers interested in implementing the strategy to position them in the competitive market and eradicate the main barriers with the help of a systematic approach. This work classified the barriers for CPS implementation and explored the basic nature of barriers. With the help of this result, managers can predict their weak field in successfully implementing the strategy. This research will help managers and decision-makers utilize their resources effectively and save their costs and fresh materials.

7.7 Conclusion and future scope

CPS is one of the most important strategies for an apparel retail firm to achieve a position in customers' minds over their competitors. This research attempts to address and understand the CPS implementation difficulties due to various significant barriers. In this work, an effort is made to evaluate barriers to CPS implementation in retail

apparel firms. A total of seventeen barriers related to CPS implementation are listed through literature and validated through experts' opinions. Further, these barriers are categorized into tangible resources, intangible resources, capabilities, and dynamic capabilities.

The Grey-DEMATEL method is used to analyze the barriers to distinguish their cause and effect relations. This method provides better support to decision-makers with less information (Tseng, 2009). The result shows that the barriers B1, B2, B3, B4, B6, B8, B12, B13, and B16 belong to the cause group and need to be focused first to eradicate them to achieve the desired objective. The remaining barriers B5, B7, B9, B10, B11, B14, B15, and B17 belong to the effect group and need to be eradicating later on CPS implementation in apparel retailing firms. Cause group barriers have a direct impact on the strategy implementation process and show high priority. Therefore, it is essential to directly focus on influencing (cause group) barriers to influenced (effect group) barriers. This work is validated with experts' feedback and consistent with the literature. Sensitivity analysis has been conducted to get an accurate result and reduce the biases in this research. This research work seeks to make several unique contributions, as given below.

- The present work identifies the seventeen barriers and categorized in RBT and dynamic capability for CPS implementation in apparel retailing firms. The listed barriers should be eradicated to implement the CPS successfully.
- The grey-DEMATEL based model analyses the hurdles in the way of CPS implementation. It helps to understand the causal relationships between the barriers and helps to know the strength of relationships between them under an indecisive environment.

- This work presented a benchmarking framework focusing on CPS implementation that helps managers, policymakers, and academicians to prioritize barriers to be eradicated to implement CPS successfully.

CHAPTER 8

CONCLUSION AND FUTURE SCOPE

8.1 Introduction

The present study essentially revolves around customer satisfaction, resource utilization, and competitive positioning strategy to Indian apparel retailers. The assessment and measurement of perceived values must be based on customers' perceptions because they are directly involved in identifying, evaluating, and providing services. In this regard, the study undertakes a questionnaire survey to assess the customers' perceived values with reference to India. An attempt has been made to propose an instrument for assessing customers' perceived values. Retail firms need to identify and classify the most important design requirements that require instant managerial attention for the obtained perceived values. Further, these customers' perceived values and identified design requirements are used to develop and integrate an approach to prioritize the design requirement as per current customer requirements.

This study also seeks to demonstrate the importance of resources based on RBT theory and dynamic capabilities. A total of 17 barriers were identified for the strategy implementation and classified into tangible, intangible, capability (skill), and dynamic capability with literature and expert suggestions. Further, the barriers are classified into cause and effect groups to help managers and decision-makers implement strategy. The following section stated the summary of the results obtained in the study.

8.2 Summary of findings

The important findings of this thesis are summarized as follows:

- The first chapter's first objective (To design and develop a Proposed Instrument for assessing customer value perception and predict the effect on loyalty) mentioned in the first chapter is discussed in chapter 4. The study's findings identify customers'

perceived value and a total of 39 items grouped into ten latent factors. The lowest factor loading for item "There were enough employees in the store to service customers" was 0.548 that failed to get threshold (0.600). Further, this study is divided into two steps. The hypotheses have tested the five factors as indicator/observable variables for the in-store logistics in the first step. In the second step, hypotheses were tested to check the impact of in-store logistics and other five factors on customer satisfaction. The findings show that all factors positively influence customer satisfaction. Further, the hypothesis is tested for the impact of customer satisfaction on loyalty. The result positively influences loyalty. Here, no hypothesizes have been rejected.

A review of customer perception literature in chapter 2 reveals an abundance of studies on perceived values (Anselmsson, 2006; Rintamäki and Kirves, 2017; Willems et al., 2016; Wang et al., 2004; Graf and maas, 2008; Sweeney and Soutar, 2001; Chen and Quester, 2006; Jung and Jin, 2016; Verhoef et al., 2009; Theodoridis and Chatzipanagiotou, 2009; Thomas, 2013; Brengman and Willems, 2009; Islam et al., 2012; Paulins and Geistfeld). Traditional researches have less focus on functional attributes (like in-store logistics) of retail store. This research has identified the new dimension as a second-order factor for return, product information, product accessibility, product availability, and facility (bouzaabia et al. 2013). Further, communication has been added as the other perceived dimensions. Thus, the aforesaid new dimensions of customer perception are extended to investigate the perceived value.

- The second objective of the research (To identify the strengthening factors of competitive positioning and establish interrelationships amongst them) that is mentioned in the first chapter is discussed in chapter 5. Some of the SFs identified

here with the ISM-based model help for a successful competitive positioning strategy. The Fuzzy-ISM model upgrades the original ISM model, which shows a more sensitive structural model than a binary structural model. This study's major finding is that the retail environment, ICT, Technology Adoption, and Human Resource Management are the most important factors that need focus. In the ISM hierarchy, the retail environment is at the bottom level, and this factor is most important and influences other factors. Technology adoption is a factor on which retailers should be focused to adopt new technology. The new technology can improve the retailing process's efficiency and add value to customers' shopping.

- The third objective of the research (To propose an integrated framework for system design for achieving an improved level of customer satisfaction) that is mentioned in the first chapter is discussed in chapter 6. After identifying customer requirements and design requirements, the integrated approach is used to prioritize design requirements. These design requirements are prioritized through QFD. These priorities help the retailers find the most urgent improvement in design requirements to satisfy a high level of customers and achieve a competitive position in their minds. The priority sequence is as follows: customer value proposition, in-store logistics performance, retail environment, information and communication technology, merchandise management, technology adoption, human resource management, demand chain management, and collaboration among supply chain partners.
- The fourth objective of the research (To Analyse the interaction among barriers of competitive positioning strategy implementation in retail) that is mentioned in the first chapter is discussed in chapter 7. The Grey-DEMATEL method is used to analyze the barriers to distinguish their cause and effect relations. This method

provides better support to decision-makers with less information (Tseng, 2009). The result shows that the barriers Unclear organizational objectives (B1), lack of understanding of competitive positioning benefits (B2), lack of employee engagement (B3), lack of education and training to the employee (B4), lack of continuous improvement culture (B6), lack of management commitment and support (B8), lack of communication (B12), lack of new technology (B13) and lack of financial resources (B16) belong to cause group and need to be focused first to eradicate them to achieve the desired objective. The remaining barriers lack of responsiveness (B5), poor in-store operational performance (B7), lack of Corporate Social Responsibility (B9), lack of collaboration among supply chain partners (B10), unwillingness to share information among supply chain partners (B11), lack of technical expertise (B14), lack of demand chain practices (B15), high cost associated with new strategy (B17) belong to effect group and need to be eradicating later on CPS implementation in apparel retailing firm. Cause group barriers have a direct impact on the strategy implementation process and show high priority. Therefore, it is essential to direct focus on influencing (cause group) barriers to influenced (effect group) barriers. This work is validated with experts' feedback and consistent with the literature. Sensitivity analysis has been conducted to get an accurate result and reduce the biases in this research.

8.3 Managerial Implications

The managerial implications are as follows:

The customer perceived value in the Indian apparel retailing context can be reliably measured with a thirty-eight-item construct loaded on ten factors. The factors can be defined as the ease of return, on-shelf availability, product accessibility, shopping convenience, product information, store environment, store communication,

merchandise assortment, perceived price, and employee for the apparel retailing sector. It is to be noted that “perceived price and store environment” is the most important factor, whereas “in-store logistics” is the least important factor.

The management of retail stores needs to understand the characteristics and interrelationship among factors for achieving a position in the market. With this study's help, top management of retail stores can better understand the interaction of factors (internal and external) and be aware of the hierarchy of factors and use them one by one as per organization requirements. A retailer can achieve a competitive position in the market if they successfully implement the developed hierarchy.

Firms that spend on customer value proposition can invest less in promotional activities like advertisements (Mishra et al., 2020). The research suggests that retailers should focus on the customer value proposition. This research suggests the priority of design requirements based on customer perceived value. Therefore, DCM and collaboration among supply chain partners are at last on the priority list but not least. These are important to run any retail business, but the customer can not perceive these services directly.

The results of this study can derive some managerial-level implications. Managers should focus on the causal (driver) barriers because it influences the effect (dependent) barriers. This research is highly noteworthy for the apparel retailers interested in implementing the strategy to position them in the competitive market and eradicate the primary obstacles with the help of a systematic approach. This work classified the barriers for CPS implementation and explored the basic nature of barriers. With the help of this result, managers can predict their weak field in successfully

implementing the strategy. This research will help managers and decision-makers utilize their resources effectively and save their costs and fresh materials.

8.4 Limitation and future work

The present work depends on the customer's perceived values, strengthening factors, and resources identified and classified based on literature and expert suggestions. There may be other factors for the issue. This study considers the essential factors from literature and expert opinion for the dissertation. It may be possible that other factors that were not considered here be important as per the situation. In chapter 4, the survey was conducted in a tier-II city of India. Future studies may perform with some new latent variables using a cross-sectional study for a longitudinal study.

In chapter 5, the ISM model was developed, and the FMICMAC analysis was done through the group judgment of experts and academicians. It is a subjective judgment, and fewer experts have participated. If any biasing is found in the judgment of experts, then it may affect the result. The efforts to gather more opinion from an expert is also not sufficient. A brief questionnaire survey with large data can be one way to catch insight on these SFs from more industries. Structural Equation Modelling can be used to validate the hypothetical model in future research. In chapter 6, the validity and reliability of design requirements related to customer value perception are not obtained.

In chapter 7, research has few limitations that can be considered an opportunity for future work. In this study, CPS barriers are analyzed, but this model does not show the impact of each barrier in strategy implementation. For future research, the same study can be considered with additional barriers. This model is based on industry experts' ratings; however, their judgment is subjective opinions. For future studies, this model can be validated with some statistical work like structural equation modeling.

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Appendix A

I am Abhishek Kumar Singh, pursuing Ph. D. in Industrial Management from IIT (BHU), Varanasi. This questionnaire is a part of my doctoral thesis work. The information given by you will be used purely for the said purpose only, your identity will not be disclosed and the data will be kept confidential. Kindly provide your valuable information and help me in my endeavour.

Each statement has seven possible responses. Please tick on an appropriate box as you feel most suitable from the following options.

Strongly Disagree	Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

On-shelf Availability

In this store, the shelves are well-stocked

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

During my visit, I noticed product was available that of my interest

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

Ease of Return

One can easily return unwanted and defected product

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

No problems when returning merchandise

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

Shopping Convenience

In this store, sufficient carrier bags are provided by the cashiers

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

In this store, there are enough shopping carts

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

In this store, the number of cash registers open during peak hours is sufficient

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

This store has convenient hours of operation

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Product Accessibility

In this store, supply bothers me during the visit

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

In this store, all products can be easily reached

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Product Information

Washing and care information was available on label

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Prices on the product labels are correct

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

In the store, information was available about stock-outs

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

In this store, information of product features is sufficient

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Customer Satisfaction

I am completely satisfied with the shopping experience in this store

1	2	3	4	5	6	7

I am pleased with the overall service delivered by this store

1	2	3	4	5	6	7

Shopping in this store is a pleasant experience

1	2	3	4	5	6	7

Loyalty

I will keep on buying products and services from this store

1	2	3	4	5	6	7

I will suggest this store to my friends

1	2	3	4	5	6	7

Store Environment

I like a lot the layout of this store

1	2	3	4	5	6	7

The store environment is very tidy

1	2	3	4	5	6	7

In this store I feel comfortable

1	2	3	4	5	6	7

I found it easy to orient myself in this store

1	2	3	4	5	6	7

In this store the display of merchandise is excellent

1	2	3	4	5	6	7

In this store the layout is modern

1	2	3	4	5	6	7

Merchandise

In this store merchandise quality is very high

1	2	3	4	5	6	7

In this store merchandise breadth (products of different variety) is very high

1	2	3	4	5	6	7

In this store merchandise depth (products in each variety) is very high

1	2	3	4	5	6	7

Store Communication

Communication in this store is reliable

1	2	3	4	5	6	7

Communication in this store is clear

1	2	3	4	5	6	7

Communication in this store is complete

1	2	3	4	5	6	7

Employee attribute

The employees were well-dressed and appeared neat

1	2	3	4	5	6	7

The employees were knowledgeable

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

The employees were friendly

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

The employees were helpful

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

There were enough employees in the store to service customers

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Perceived Price

I get value for my money at this store

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

I can purchase products for less at this store

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

The Price at this store is fair

☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Appendix B

A total of nine strengthening factors for competitive positioning strategy are given below. A brief description of the variable is also provided for the convenience of the respondent.

The row factor compare with column factor in the form of V, A, X, O. where, **V** shows the influence of row factor on column factor, **A** shows the column factor influence row factor, X shows the row factor and column factor each other and O shows that there are no relation.

No.	Strengthening factors	SF9	SF8	SF7	SF6	SF5	SF4	SF3	SF2	SF1
1	Demand chain management **(SF1)**									
2	In-store logistics Performance **(SF2)**									
3	Information and communication Technology **(SF3)**									
4	Collaboration among supply chain partners **(SF4)**									
5	Technology Adoption **(SF5)**									
6	Retail Environment **(SF6)**									
7	Human resource management **(SF7)**									
8	Merchandise management **(SF8)**									
9	Customer value proposition **(SF9)**									

Appendix C

A total of 17 barriers for competitive positioning strategy are given below. A brief description of the variable is also provided for the convenience of the respondent. We welcome you to add the potential barriers that are relevant and not added here.

Instructions																			
Please fill the relationship in terms of **0 - No Influence, 1 - Very Low Influence, 2 - Low Influence, 3 - High Influence and 4 - Very High Influence**.																			
	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17		
Unclear organizational objectives (B1)																			
Lack of understanding of competitive positioning benefits (B2)																			
Lack of employee engagement (B3)																			
Lack of education and training to the employee (B4)																			
Lack of responsiveness (B5)																			
Lack of continuous improvement culture (B6)																			
Poor in-store operational performance (B7)																			
Lack of management commitment and support (B8)																			
Lack of Corporate Social Responsibility (B9)																			
Lack of collaboration among supply chain partners (B10)																			
Unwillingness to share information among supply chain partners (B11)																			
Lack of communication (B12)																			
Lack of new technology (B13)																			
Lack of technical expertise (B14)																			
Lack of demand chain practices (B15)																			
Lack of financial resources (B16)																			
High cost associated with new strategy (B17)																			

PUBLICATIONS

1. Singh, A. K. and Samuel, C. (2018), "Modelling the strengthening factors for competitive position of apparel retailing in India", Journal of Modelling in Management, Vol. 13 Issue: 4, pp. 884-907.

2. Singh, A. K. and Samuel, C. (2020), "Positioning strategy implementation barriers: A decision making approach based on resource based theory", International journal of management and decision making, Vol. 19 Issue 4, pp. 473-504.

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2. **Singh, A.** and Samuel, C., "An integrated framework to create, manage and evaluate the positioning strategies", Benchmarking: A international journal.