Measuring Retail Service Quality: Evaluating Impact of BI on Customer Buying Behaviour in Food and Groceries Retail

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Abstract
Retailers are placing the customers as their priority to improve customer interaction by implementing innovative business practices into their businesses. By focusing on the organised food retailing that has adopted business intelligence (BI) tools, this study evaluates the impact of BI on service quality to assess customer buying behaviour. Based on findings from focus group, literature survey and a validated service quality the study examined the service quality variables supported by BI on customer buying behaviour. The Data collected from customers of six organised food and groceries retailers at Hyderabad city was analysed using exploratory factor analysis, confirmatory factor analysis, and structural equation modelling. The results indicate that: 1). the proposed seven variables of service quality rather merged into four variables. 2). from the structural causal relationship analysis it is identified that the four factors have significant relationship, with the identified model showing good fit. 3). the structural causal relationship also suggests that all the latent variables are strongly correlated. 4). it is observed that the all items related to their respective latent factors indicate significant loading values. However, the proposed instrument and the seven variables of service quality need considerable attention in Indian context.
Keywords: Business Intelligence, Indian Food and Groceries Retail Stores, Retail Service Quality, Confirmatory Factor Analysis, Customer Satisfaction.

1. Introduction
"In Retailing today, current changes we see are often not trends but rather steps in a changing process"- Richard B. Fisher, Chairman, Morgan Stanley Group. Inc.

Retailing comprises of the business activities that involves selling goods and services to consumers and is the last stage in the distribution process (Barry and Evans, 2004). Current retailers every day collect huge amount of data which is generated from transactions from different sources and is stored in information repositories such as databases and data warehouses. For this reason, retail industry has been investing in Information Technology (IT) systems for the analysis of its products, categories, services and customers (Basel Dayyani -2010). Customers by the time they visit a retail outlet have information about products, prices and services due to advancements in IT; at the same time, retailers are feeling the pressure to provide consumers with faster and more efficient levels of service. This concept known as omni-channel retailing is an evolution of multi-channel retailing today's consumers are using to learn more about and make contact with a particular brand (Chris Davis, 2015).

Business Intelligence (BI) is an umbrella term that refers to a variety of software applications used to analyse organization's raw data with an aim to help firms make better decisions. According to Gartner Group report, the key to thriving in a competitive marketplace is staying ahead of the competition. Extensive business decisions are based on accurate and current information that involves more than intuition; therefore it is absolutely essential for the retailers to understand the buying behaviour of the customers and their needs to be proactive and dynamic. The field of information and communication technologies (ICT) has registered significant progress and showed significant changes in the purchasing behaviour of the consumers who are using simultaneously online and offline channels within the same shopping experience (Albăstroiu. I and Felea. M, 2015), QR Code (Quick Response) is one among the emerging technologies that retailers implement for adapting to these changes. As customers transact in a highly competitive world, to retain their customer satisfaction has become crucial for retailers (Fonseca, 2009). Therefore, customer service plays key role in sustaining business growth by excelling in areas such as enhanced in-store experience. There are positive associations between service quality, customer satisfaction, perceived value and customer loyalty (Cronin et al., 2000).

2. Retail in India
India is a palace for all sizes, varieties and formats of retail sector with a wide diversity of urban rich, rural, and poor customer base. The Indian retail sector is fragmented, consisting of small independent owner managed shops, accounting for 92% of the retail sector and the remaining 8 % constitutes the organized sector. The organized retail is composed to grow at the rate of 20% by 2020. Traditionally, most of the retail business in India has been small owner managed business, only recently the country is witnessing the emergence of

organized, corporate activity. Though for decades, constant change in retail operations has been witnessed, the recent change has been radical. India's large and aspiring middle class of nearly 300 million individuals want products that are value-driven. India's Gross Domestic Product (GDP) for FY 2014-15 was noted at 7.3% as against 6.9% in the previous fiscal year (Cushman and Wakefield, 2015). Though emerging economies showcase the conditions desirable for expansion of retail sector with globalization and urbanization, retailers also face several issues and challenges such as infrastructure, high rental cost, high crime rate which inhibit investment into the country.

Opportunities for retailing are increasing due to technological developments and modified regularities by allowing more than 51% FDI's in retail sector. The growth of retail in India is due to advancements in Information and communication Technology (ICT), various factors contributing to the growth are urbanization, higher income, evolving consumption pattern, lifestyle trends, increase in easy access to credit, increase in rural income, growth of modern trade format in Tier-I, Tier-II and Tier-III cities and towns.

3. Literature Review
3.1 Technology in Retail
Technology represents an outstanding competitive advantage for those retailers who are open to innovation and willing to take on a new perspective of today's unpredictable, complex retail industry. To better meet the needs of shoppers, companies are pulling out the stops to keep track of customer preferences and behaviours by implementing predictive analytics and data mining solutions (Diana McHenry, 2010). Traditional shopping centres - malls, community centres and neighbourhood try to constantly provide buyers with new stores and innovative offers, in accordance with their wishes; to enrich service offerings, enabling visualization of the offers on mobile devices; to introduce new technologies to scan products and new payment methods (Abrudan, 2011).

Retailers are realizing that an investment in business analytics gives them a competitive advantage with short-term as well as long-term results. Information technology (IT) has become the basis for significant changes in manufacturing processes, logistics systems and warehouse operations (Kinsey et.al, 1996). For attaining more visibility across the various processes IT is being increasingly used in supply chains that would lead to organizational competencies. Sheombar (1997) described supply chains as IT-supported integration of various activities that is a part of relationships across the organizational hierarchies facilitating the flow of goods.

Technology has redefined the roles and functions of the retailers as well as intermediaries by facilitating new types of transactions and relationships (Lewis and Talalayevsky, 2004). According to OECD (2004), retail business innovation can refer to innovations brought to the assortment of products, brands or services, to the processes (production, distribution, support activities, etc.), to the organization (internal structure, logistics, value chain, practices or methods of management of goods, inventory, warehouses and/ or stores, relations with the stakeholders), to the marketing and to the introduction of innovations in order to implement these. Sawhney, Wolcott and Arroniz (2006) broadened the area of innovation by including integrated solutions addressed to buyers, shopping experience, value, or the various technical aspects that facilitate market presence.

ICT allow improvements in retailer service (Ellram et al, 1999) saves shopping time through a wider assortment and one-stop shopping (Messinger and Narasimhan, 1997) from the customer's perception. Radio frequency identification (RFID) enabled services helps retailers track information from suppliers, logistics, distribution centre, store shelves and at the point of sale (POS). The information technologies used in the retail industry can be classified based on different technologies used in-store and technologies used out-store (Ellram et al., 1999). Retailers are using BI tools to remain competitive in a cut-throat consumer market as both online and in-store retailers are struggling with the growing deluge of customer data (Kathleen Hall, 2015). According to Weber, a retail analyst, developments occurring in BI tools for retailers are replenishment automation that had the biggest impact on retailers over the past 10 years while recent effects involves reduction of inventory, assortment optimisation to be more responsive to changing consumer preferences and price optimisation that can gain the edge over competitors.

3.2 Retail Service Quality
A service is any intangible act or performance that one party offers to another that does not result in the ownership of anything (Kotler and Keller, 2009). Quality is one of the things that consumers look for in an offer, which service happens to be one (Solomon 2009). In the development and implementation of successful marketing strategies, the delivery of service quality, consumer satisfaction and service value are some of the primary methods of differentiation a service firm can employ (Cronin and Taylor 1992; Gronroos 1990; Oliver 1993; Quinn 1992). Service quality in retailing is different from any other product/service environment (Finn and Lamb, 1991). For this reason, Dabholkar et al (1996) developed the Retail Service Quality Scale (RSQS) for measuring retail service quality. Studies assessing the applicability of the RSQS have reported encouraging results. Dabholkar et al (1996) replicated their own study and found all the RSQS dimensions and sub-dimensions to be valid in the U.S. Kim and Jin (2001) report the RSQS a useful scale for measuring service

quality of discount stores across two different cultural contexts of U.S. and South Korea, though they reported empirical support for a four and not a five dimensional structure.

3.3 Measuring Retail Service Quality

Various scholars have considered different dimensions of service quality to measure customer satisfaction. Service quality is the fulfilment of customer's expectations (Gronroos, 1983). Parasuraman et,al. (1994) state that their focus groups captured not only the attributes of service quality, but also the underlying psychological process by which consumers form service quality judgments, involves the appropriateness of the perceptions-expectations gap conceptualization, which is the basis of the SERVQUAL scale. Parasuraman et.al., (1985) defined service quality as the gap between customer's expectations of service and their perceptions of the service experience, while Gronoos (1884) considers technical, functional, and reputational quality. Retail stores have evolved from providing only physical products that address consumers' needs (Pan and Zinkhan, 2006) to offering a solution centre that integrates the sale of both physical products and value-added services to attain competitive advantages (Davies et al, 2006).

Retail literature suggests that store appearance is important to retail customers (Baker et.al., 1994). The physical aspects such as store layout, furniture and fixtures and parking facilities add more consumer value (Oliver, 1981 and Hummel and Savitt, 1988). The customization and personalization are the important measurement to increase the reliability on the retail outlet (West brook, 1981). In retail trade, Dabholkar et.al (1996) proposed that retail service quality has a hierarchical factor structure by identifying a twenty eight item instrument to measure the service quality. The techniques of customer satisfaction analysis allow the critical aspects of the supplied services to be identified with increase in and customer satisfaction (Cuomo 2000). Dabholkar et al subsequently used both quantitative and qualitative methods to develop the retail service quality scale (RSQS), which is a multi-item scale for measuring retail service quality in terms of five dimensions.

3.4 Measuring Service Quality of Information Systems

Van Dyke et al. have made an important contribution by bringing an on-going debate from marketing to the IS community. The suitability of SERVQUAL was assessed in three different types of organizations in three countries. After examination of content validity, reliability, convergent validity, nomological validity, and discriminant validity, the study concludes that SERVQUAL is an appropriate instrument for researchers seeking a measure of IS service quality (Pitt et al, 1995).

Technology has become inevitable for the retailer to understand the buying behaviour of the customers and their needs, to be proactive and dynamic. Some of the advantages of technological adoption in retailing according to (Viola, 2008; Motorola, 2012) include improved purchasing experience to customers, low prices due to decrease in supply chain costs, increased product safety, less empty space on shelves, faster checkout and "Seamless" omni-channel shopping experience. In an empirical research (Moscardo, 2008) has demonstrated that new ICT favour innovation and competitiveness in the services activities. Innovation in retailing is strictly linked to the management of advanced technologies introduced in shops and their capacity to improve the sales process from different points of view –customers, suppliers, distributors, workers, etc. (Pantano, 2014).

3.5 Service Quality and Customer Buying Behaviour

Service quality is found to be a significant predictor of buying behaviour in determining repeated purchases, switching (Bitner, 1990). Dhabolkar et.al in their study found the evidence that there is positive relationship between service quality and customer repeated purchase. Through data mining, a retailer can identify the demographics of its customers and the products they buy (Syed, 2004). Retailers can predict the future trends for individual products with the help of advanced demand forecasting techniques by understanding the demand associations of different products (Shailendra and Anil, 2011).

4. Research Objective

The objective of this study is to evaluate the impact of advanced technology tools on service quality to measure customer buying behaviour. In accordance with this objective, the empirical survey comprises the following objectives:
1. To evaluate the validity of the service quality dimensions in food and groceries retail on customer buying behaviour
2. To assess the impact of BI on service quality that contributes to customer buying behaviour.

Hypothesis

H0: Service quality of retailers implementing BI is expected to have a positive influence on customer buying behaviour.

4.1 Measures

The first step included focus group interview conducted with five senior retail experts from marketing, finance and HR and three professors from management studies on the innovative tools and practices adopted by retailers and service quality variables. Followed by a thorough study of literature and further the discussion, with minor changes from the scale RSQS proposed by Dabholkar et al (1996), a total of 23 service quality variables were identified that included customer membership cards, regular updates about product information, customer fast checkout and error free transactions. Considering technology effectiveness of service quality, the variables and indicators for the study are given in the table.1. The graphical summery for measurement of service quality indicators is shown in the figure.1.

Table. 1 Operational variables used in this study

	Variables	**Indicators**
Service quality RSQS by Dhabolkar et.al (1996)	*Physical Aspects*	P1. modern-looking equipment and fixtures. P2. convenient store layout to move around P3. easy for customers to find what they need. P4. neat display for sales offers, discounts P5. merchandise available when customers want.
	Reliability	P6. transparent, fast and error-free sales transactions P7.prompt service to customers P8. services at the time it promises to do so
	Personal Interaction	P9. knowledge to answer customers' questions P10. customers feel safe transactions P11. individual attention to customers
	Problem Solving	P12. willingly handles returns and exchanges for damaged items/foodstuff P13.effective compensation for damaged items/foodstuffs at this store P14.able to handle customer complaints directly and immediately
	Policy	P15. offers high quality merchandise P16.accepts most major credit cards P17.operating hours convenient to all their customers
(developed for the study)	*Customer Orientation*	P18. customer membership cards P19. regular updates about promotional offers P20. regular updates to avail benefits P21. quick billing and fast checkout
(developed for the study)	*Economy*	P22. range of products available in different grades-(premium, superior, value) P23. ensures low prices

Figure 1 provides graphical summery for measurement of service quality indicators
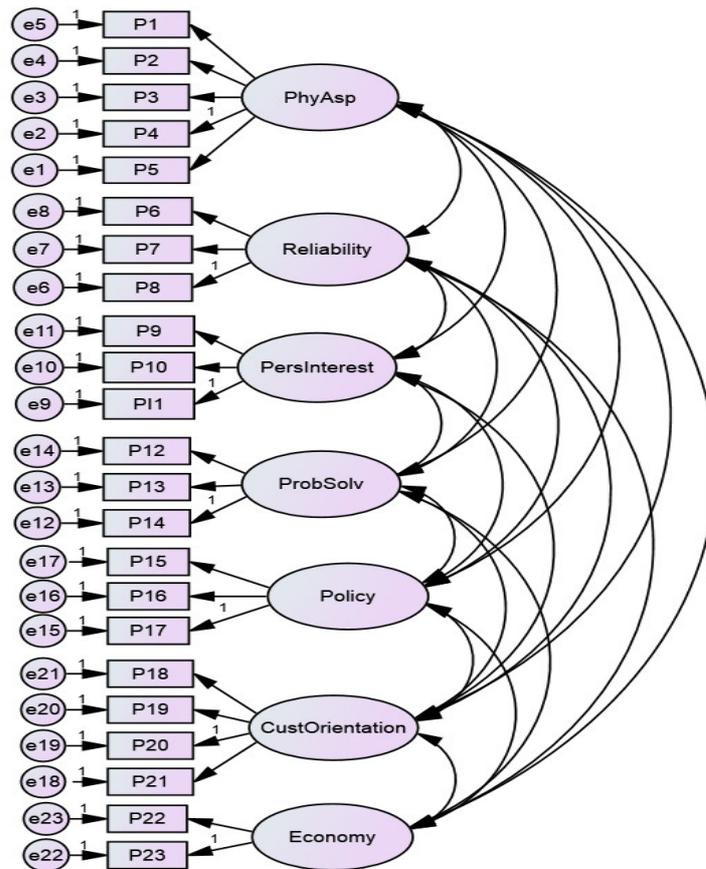
Six organised retailers located at Hyderabad city was considered for this study as Hyderabad is one of the oldest evolution patterns for supermarkets and is one of India's central Information Technology and IT enabled service hubs. The study population is represented by customers of the respective six organised food and grocery retailers in Hyderabad city, namely, More (Aditya Birla Group); Reliance Fresh (Reliance Group); Spencer's (R.P Goenka Group); Big Bazar (Future Group); D Mart (Avenue Supermarts) Ltd); Metro Cash and Carry (Wholesale Retailers-Indian subsidiary of Metro AG).

Table.2 Methodology Details

Geographic Location	Hyderabad City, India
Sample Size	500 Customers (Details in table.3)
Sample Design	Personal Survey at the exit of the retail store
Data collection period	October –November, 2016
Statistical techniques	• Descriptive analysis, • Factor Analysis, • Confirmatory Factor Analysis
Statistical software	• SPSS version 21 • AMOS version 21

The respondents for the survey are customers of the respective food and groceries retail outlets, selected and interviewed at the store exit. A non- probability sampling process has been followed and made sure that the sample is representative of the population in terms of gender, age, education and income. This study uses quantitative methods as the data collected for analysis is used to test the relationship of variables (Bryman and Bell, 2003). The research approach is a descriptive study, aimed to establish only associations between variables (Hopskins, 2009).

Table.3 Sample distribution: Name of the retailer and number of respondents

S.No	Name of the Retailer	Total no of Respondents
1	More	83
2	Reliance Fresh	83
3	Spencer's	85
4	Big Bazar	83
5	D Mart	83
6	Metro	83
Total	6	500

4.2 Sample

The sample size was equally distributed among the respondent of six organised retailers from the Hyderabad city because it is among the first cities in India that consist of different organised retail formats - convenient stores, supermarkets, hypermarkets and wholesale retailers with large customer base. The respondents were customers of the respective retailers that includes men and women (gender) with age groups starting from 18-25 years (age) and greater than 25, ensuring they were at least 18 years old, income ranging from Indian rupees 10,000- 20,000 (income) and above 20,000.

5. Findings and Discussion

5.1 Factor Analysis

A pre-test was conducted in order to ensure that the questionnaire was clear, understandable for the seven-factor structure in retail service quality stores by administering to 20 known customers. The collected responses were then discussed with them to explore their opinions. After addressing minor problems, the final questionnaire was then administered to 500 customers who are regular shoppers at the exit of the organised retail outlets, mentioned in the table 3 and requested them to fill in the details at their homes keeping in view the convenience of customers. The questionnaires were collected from the customers eventually. Perceptions of the consumers was assessed using 7 point Likert rating scale ranging from 1 (Very dissatisfied) and 7 (Very satisfied). The customers were regular shoppers at the respective six retailers and visited these retail chains in the last six months and had spent a significantly large amount on shopping during their visits.

Factor analysis was applied to the responses in order to identify the relationship between the variables. Principle Component Analysis (PCA) with VARIMAX rotation is performed to obtain the factor structure of the seven variables. The factor analysis resulted in four factors in the rotated component matrix instead of the seven factors considered theoretically. Out of 23 items, five items, 1, 8, 11, 12 and 17 were eliminated, due to low factor loadings resulting in 18 items. The KMO and Bartlett's Test value 0.711 suggests appropriateness for sample adequacy. Also, the test relates to the significance of the study thereby showing the validity and suitability of the responses collected to the problem being addressed in the study. The determinant matrix is a positive definite with t=0.036 which is fairly greater than the required value 0.0001. This indicates that there is no multi-collinearity issue for this data. Therefore to sum up, all the questions in the questionnaire correlate fairly well with none of the correlation coefficients particularly large. The variables and the corresponding items that are considered in the study, was enclosed in the Annexure 1. The EFA suggests 4 factors with a total variance of 84.91%, the details along with the reliability coefficient and factor loadings are presented in the table.4. The overall reliability 0.949 indicates strong support for the four factor construct validity.

Table.4 Factor Analysis of Service Quality Variables

Variables	Sub-Variables	Factor loadings
The KMO and Bartlett's Test value is 0.764; Total variance is 84.91% ; Overall reliability is 0.949		
Product Availability: *this factor has 29.22% of variation; Reliability Coefficient 0.952.*		
P2. store layout at this store makes it easy for customers to move around.		0.723
P3. store layout makes it easy for customers to find what they need.		0.845
P4. store display has neat labels for sales offers, discounts and other offers on products.		0.684
P5. store has merchandise available when customers want.		0.674
P6. store insists on transparent, fast and error-free sales transactions and records.		0.857
P7. employees in this store give prompt service to customers.		0.727
P9. employees in this store have the knowledge to answer customers' questions		0.653
Policy: *this factor has 22.15% of variation; Reliability Coefficient 0.894*		
P10. customers feel safe in their transactions		0.776
P13. effective compensation for damaged items/foodstuffs at this store.		0.653
P14.employees of this store are able to handle customer complaints directly and		0.755
immediately.		0.884
P16. accepts most major credit cards.		
Customer Orientation*: this factor has 18.67% of variance; Reliability Coefficient 0.873*		
P15. offers high quality merchandise.		0.705
P18. offers customer membership cards		0.516
P19. customer updates about discounts and other promotional offers regularly through		0.589
SMSs.		0.656
P20. updates accumulated points on further purchases to avail benefits		0.936
P21. quick billing and fast checkout		
Economy*: this factor has 14.87% of variance; Reliability Coefficient 0.791*		
P22. products available in different grades		0.856
P23. ensures cost effectiveness on every purchase		0.535

The variance of the first factor product availability (physical aspects, reliability and personal interaction) is found to be 29.21%, the second factor policy (problem solving and policy) is 22.51%, the third factor (customer orientation) is 18.67%, the fourth factor (economy) is 14.87%. Cronbach's alphas were high, ranging from 0.791 to 0.952 suggesting a high level of internal consistency of items within each factor.

5.2 Structural Equation Model

The research model is used to test hypothesis for the causal relationships among the service quality variables and the impact of BI tools on customer buying behaviour using AMOS 21. AMOS 21 was used for the analysis with simultaneous estimation of structural and measurement models. 18 items were used to measure four latent constructs, through confirmatory factor analysis.

Figure 2 depicts the structural equation model showing standardized factor loadings of indicators for measurement model and significant path coefficients for standardized path coefficients for each relationship.

Table 5: Measurement Model – Descriptive Statistics and Quality Indicators

Variables	Mean	Std. Deviation	Std. Factor loadings	Cronbach's Alfa (α)	S.E	t value	AVE[b]	CR[c]
Product Availability				0.952			0.838	0.973
P2	5.5500	0.9533	0.877*		- [a]	-		
P3	5.1125	1.3593	0.925*		.129	8.024		
P4	5.3875	1.4451	0.876*		.183	8.510		
P5	4.8875	1.4840	0.849*		.196	8.010		
P6	4.9500	1.4487	0.944*		.201	7.742		
P7	5.0375	1.3163	0.878*		.195	8.694		
P9	5.3875	1.1080	0.729*		.178	8.030		
Policy				0.894			0.845	0.956
P10	5.3250	1.2606	0.848*		- [a]	-		
P13	5.3000	1.4617	0.805*		.087	11.689		
P14	5.2875	1.5026	0.838*		.114	10.333		
P16	5.2375	1.4946	0.940*		.124	11.355		
Customer Orientation				0.873			0.756	0.946
P15	4.9750	1.0670	0.802*		- [a]	-		
P18	4.9250	1.3098	0.563*		.082	10.373		
P19	5.0500	1.5002	0.665*		.121	5.719		
P20	5.3250	1.1112	0.727*		.115	7.327		
P21	5.312	0.9492	0.961*		.108	8.521		
Economy				0.791			0.875	0.934
P22	5.300	1.118	0.757*		- [a]	-		
P23	5.1500	1.233	0.961*		.105	8.537		

a Standardized factor loading; the first item for each construct was set to 1.

b Calculated as [Σ(std. loading)2] / [Σ(std. loading)2 + Σξi]. c calculated as [Σstd. loading]2 / [Σstd. loading2 + Σξi]. *significant at p<0.01

5.3 Evaluation of Measurement Model

Table 5 summarizes the results of the measurement model, including the mean, standard deviation, standardised factor loadings, standard errors, construct reliability, and proportion of variance extracted for each construct. Table 5 also reports on the results for SE and t-statistic for the indicator variables that are significant at p < 0.01. The standardised factor loadings suggest that all the items have significant factor loadings that range from 0.563 to 0.961, significant at p < 0.0. The composite reliability measures the overall reliability of a set of items loaded

on a latent construct, (0.934 to 0.973) exceeds the recommended threshold of 0.70 (Fornell and Larcker 1981, Chin 1998). All average variances extracted (AVE) are higher than 0.50 (Fornell and Larcker, 1981), ranging from 0.756 to 0.875. Hence, convergent validity shows that each measurement item correlates moderately with its assumed theoretical construct.

Discriminant validity as outlined by Chin (1998) is supported when the square root of Average Variance Extracted (AVE) between each pair of constructs is greater than the squared correlation between two constructs. The diagonal elements in the Table 6 show the square roots of the AVE of each construct, whereas the off-diagonal elements show the squared correlation of latent variable. It is observed that no indicator has a higher correlation on a latent variable other than the one it is intended to measure (Fornell and Larcker, 1981; Chin, 1998).

Table.6 Discriminant Validity

Component	ProdAvail	Policy	CustOrient	Economy
ProdAvail	.915			
Policy	.622	.919		
CustOrient	.654	.614	.869	
Economy	.749	.864	.745	.935

5.4 Measurement Model Results

The goodness of model fit for confirmation factor analysis was high with chi-square value of 513 (df = 130, p < 0.001) (Bentler, 1989); CFI of 0.928, IFI of 0.935 and NFI of 0.909 suggests acceptable fit to the data. In addition, the RMSEA value of 0.067 was also within the recommended range between 0.05 and 0.08 (Byrne, 2001; Browne and Cudeck 1993).

5.5 Correlation Estimates for the Model

The standardized regression weights or the factor loadings can be interpreted as the correlation between the observed variable and the corresponding common factor. The path diagram (figure.2) displays the significant factor loadings for the common factor and each of the indicators. The correlation estimates for associations between latent constructs in shown in the table.7. The structural model suggests strong relationship between policy and economy (0.93) and between product availability and economy (0.87). The model also indicates a strong relationship between customer orientation and economy (0.86); product availability and customer orientation (0.81); product availability and policy (0.79) and policy and customer orientation (0.78). The structural model provides empirical evidence for the belief that various benefits of advanced IT tools provide a means to improve service quality in retail stores.

Table7. Correlation Estimates between Variables

			Estimate
ProdAvailability	<-->	Policy	.789
Policy	<-->	CustOrientation	.784
Economy	<-->	CustOrientation	.863
ProdAvailability	<-->	CustOrientation	.809
Economy	<-->	ProdAvailability	.866
Economy	<-->	Policy	.930

Figure2. Structural Model for impact of BI on Service Quality and Customer Buying Behaviour
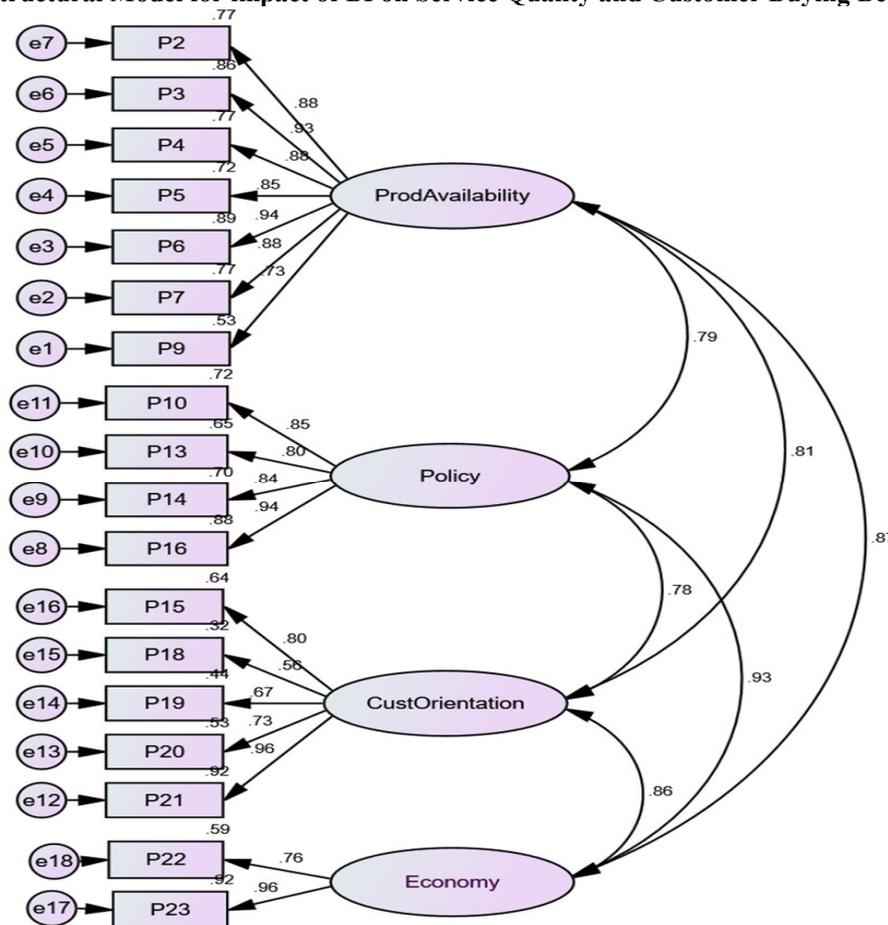
6. Conclusion and Limitations

As organized retailing is advancing in India, retail stores are implementing BI tools in order to learn the customer buying behaviour and to improve the quality of their services. The present study modified the RSQS scale by adding two more dimensions to learn the impact of advanced IT tools on customer buying behaviour. Though this study shows that the data do not support the seven-factor structure, the PCA resulted in four factors explaining 84.91% of the variance. It is identified that although the instrument does not follow the RSQS factor structure, the overall reliability of the instrument is quite high. Among the seven factors, variables policy, customer orientation and economy were identifiable from the original scale while the other factors loaded into one factor. The study shows that there is positive correlation between identified variables indicating the policy decisions by the retailers are being satisfactory from the customer perception. Also the customer orientation variable suggests that customers are aware of the product and promotional updates from the retailers' pursuit to differentiate themselves from their competitors.

Earlier studies by Sureshchander et al. (2001) and Subhashini Kaul (2005) indicates that the international scales as RSQS need special attention in Indian context for scale adaptation to ensure that the scale has reliable diagnostic ability. Though the identified four factor SEM model is a good fit to the data, keeping in view the present role of advanced IT tools in retail services, future research may be carried to address the service quality dimensions to evaluate impact of advanced IT tools on customer buying behaviour in Indian context.

Technology impact on service quality dimensions depends on the customer perception and therefore the findings can be generalized to a given period, a pre-defined market, and economic scenarios. The study also is confined to Hyderabad city; the influence of geo-demographic factors may have greater impact in evaluation of customer buying behaviour. The demographic factor varies from one geographic location to other that has not been assessed in the current study. The study also confines to food and groceries retail formats and doesn't cover various other formats that exist in the retail sector.

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Appendix I
Product Availability
P1. The store layout at this store makes it easy for customers to move around.
P2. This store layout makes it easy for customers to find what they need.
P3. This store display has neat labels for sales offers, discounts and other offers on products.
P4. This store has merchandise available when customers want.
P5. This store insists on transparent, fast and error-free sales transactions and records.
P6. Employees in this store have the knowledge to answer customers' questions.
P7. Employees in this store give prompt service to customers.
Policy
P8. There is effective compensation for damaged items/foodstuffs at this store.
P9. Employees of this store are able to handle customer complaints directly and immediately.

P10. This store offers high quality merchandise.

P11. This store accepts most major credit cards.

Customer Orientation

P12. Customers feel safe in their transactions with this store.

P13. This store offers customer membership cards.

P14. This store keeps customer updates about offers, discounts and other sales offers regularly through SMSs

P15. This store provides customers with purchase points on every purchase on membership cards and updates accumulated points on further purchases to avail benefits.

P16. This retail outlet has quick billing and fast check out at point of sale (POS)

Economy

P17. This store offers different products available in different grades- (premium, superior, value)

P18. Ensures cost effectiveness in every purchase.

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