

## 'e' Ability of the emerging organised Indian vegetable and grocery retailers

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*The Indian retail industry is expanding in line with the overall economical growth of the nation. Globally, the retail and distribution sectors have been impacted by a variety of technologies. First and foremost, retailers should have the ability to adapt to new technologies. Though retailers are trying to adopt better, reliable and more sophisticated retail technologies; adoption alone will not yield any profit, market share and business growth. It is possible to draw the benefits of technology, only if the retailer has ability to implement, practice and utilise the same technology. An exploratory study had been carried out with the objective to investigate and understand the underlying abilities to employ and use electronic technology ('e' ability) by the Indian grocery and vegetable retailer in the emerging organised retail sector. Organised retailers have been classified in to three types for this exploratory study purpose; viz. the Corporate Retailer, Regional Retailer and Neighbourhood Retailer. Personal interviews and Questionnaires were the research instruments used in this study. The study reveals the current status of and the ability to deploy and utilise electronic equipments, information technology and communication technology by the organised grocery and vegetable retailers. Organisations can only be effective if they have the capability to adapt to new technologies. The automated*

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*and fully integrated environment provides retailers with more efficiency in the complex retail business.*

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## **Introduction**

The Indian retail market is the fifth largest retail destination globally. It ranked the fourth most attractive emerging market for investment in the retail sector, according to AT Kearney's eleventh annual Global Retail Development Index (GRDI, 2012). Though fresh vegetable and grocery retail has been considered as a very low margin business, the market potential has attracted Indian business houses and corporates, driving the forays through different models like single-format, multi-format or integrated urban-rural model (Sengupta, 2008). According to a report by the Research on International Economic Relations, the retail business in India is expected grow at 11 per cent annually from US\$ 322 billion in 2006–07 to US\$ 740 billion in 2014–15. Organised retail, which constituted a low four per cent of the total retail in 2006–07, is estimated to grow at a rate of 40–45 per cent per annum, and attain a 15 per cent share of the total retail by 2014–15 (ICRIER, 2011). The Government of India termed retail as a sunrise sector, and the value of the organised retail sector in India by 2015 would be around US \$ 75 billion from US \$12.4 billion business in the calendar year 2006. The Food and Grocery retail in India is the single largest block estimated to be worth a whopping 62 per cent, but the share of the organised sector in this is a miniscule (GOI, 2010).

The entry of both the domestic and global corporates in to the fresh vegetable and grocery market initiated an evolution of organised retailing in a big way. Organised retailing refers to marketing activities undertaken by licensed retailers, that is, those who are registered for sales tax, income tax and business and managed by group of persons, partnership firms, cooperatives or incorporated; both public and

private limited companies. The need has been felt by organised retailers to establish or increase capability to handle electronic communication and data processing technology to enable the high volume and low value retail operations efficiently. Organised retailers are currently adapting to new technology, which is the trend in grocery and vegetable retailing. The degree by which each retailer practices the new technologies varies among them. An exploratory study was conducted to understand the current ability of the grocery and vegetable retailers in the organised sector, to practice electronic communication and data process technology. The undertaken study revealed the retailer's ability in the area of electronic technology.

## **2. Electronic Environment**

The technological developments in recent years, particularly in the area of electronics and its applications, like the Information system software, Internet and telecommunication have significantly changed the way we do business. The electronic environment (e-Environment) in business is providing new opportunities and passing through a phase of dramatic transformation due to the ongoing challenges being posed by the information and communication technology (ICT). ICT involves Software, Electronic Data Processing, Electronic Communication, Management Information Systems and Internet technology. 'e-Environment' is the foundation used for automated methods to process commercial data, as well as a corner stone in the implementation of Enterprise Resource Planning (ERP) system. Typically, the information and communication system is a gateway in accessing and processing large volumes of similar information in a retailing environment; it starts from purchase orders, goods receipts, stock updates, availability information, planning, and covers counter sales, billing and payment.

### 3. Retail Technology Trend

Retailing is a technology-based business. Retail business opportunities increased because of technology, and brought a great transformation with it. Extending information technology to the point of activity is the key to achieve sustainable, competitive and profitable business (Dan Hopping, 2000 and Jerome Swartz, 2000). In the organised grocery and vegetable retail sector, which has high volume of transactions, each and every function is crucial, and the applications of electronic devices are desirable and inevitable. Operational applications of electronic devices are bar coding readers (BCR), Electronic Point-of-Sale (EPOS), Electronic Payments System (EPS), Electronic Card Reader (eCR), Digital Cheque Reader (DCR), Digital signature capture (DSC) device, Biometric Fingerprint capture (BFP) device, Electronic Weighing Machine (EWM), Electronic Cash Register (ECR), Kiosks, computers and display screens, printers, shopping aid electronic devices, price checkers, and customer's self-checkouts. The retail back office, which is technology driven, has clearly emerged as the central hub and conduit of information flow between the storefront and the retail enterprise. Retail Technology solutions in the functional and process area of the business are Electronic Data Interchange (EDI) (Lori and Christine, 2006) and Radio Frequency Identification (RFID) technology (Mairead Brady et al., 2007 and Mikko Karkkainen ,2003). Information System (IS) applications are Retail Management System (RMS), Purchase, Inventory, warehouse and invoice systems, Customer Relationship Management (CRM), Retail Information System (RIS) and Business Intelligence (BI) tools (RIS News, 2006).

Even though grocery retailers were early leaders in the development of universal product codes (bar codes), they are among the last to realize the payoff from their universal adaptation and use. The automobile industry adapted to just-in-time delivery channels two decades ago, and clothing retailers adapted a "quick response" system in the 1980s

(Jean and Sara, 2000). The latest innovations have occurred because of new electronic communication and information technology, management systems, and global competition. Organised retailers in the grocery and vegetable sector are always trying to get the edge on their competitors. The competition is not always for the width and depth of the merchandise but shopping convenience and comfort, accurate check out, detailed billing, payment options and promotions. The ability to establish an integrated retail information system and adapt it for business process automation, will help in increasing the competitive advantage and add value and visibility to business, customers, and trading partners. Electronic devices enable one to make accurate and fast reading possible, reducing errors and re-entry. The current trend in grocery and vegetable retail is to adapt to new technologies and become “e-Able Organisation”.

#### **4. Literature Review**

Information and communications technologies have also had important impacts on business operations, decision processes, and trading-partner relationships in food retailing. The widespread adoption of scanning technology and the Uniform Product Code during the 1980s provided the technological foundation for the introduction of electronic transmission of order data, industry-supported mechanisms for sharing scanner data, and computer-based product-movement analysis at the store level. Information technology was also the basis for significant changes in warehouse operations, logistics systems, and manufacturing processes. (King and Park, 2004). The point of sale, always a crucial area for technology investment, continues its dominance, but with a twist. It is now expected that any POS system will be able to perform the basics, such as maintaining high throughput speeds and handling a wide range of financial transaction types. (Getronics, 2007). The combination of scanning and faster cash registers increased productivity significantly at checkout.

With 45% of all the units scanned, productivity increased by 12 - 14%. It was projected that with 90% of all the units scanned, productivity would increase by 30%. With the introduction of scanning into the retail food industry, a wealth of information was now in the hands of the retailers. Prior to scanners, the information advantage was held by the manufacturers who used the nationally syndicated sales data to calculate movement and persuade retailers to purchase certain quantities of their products (Kahn and McAlister, 2007). Although wireless POS capabilities have been available for years, we are finally seeing some uplift in retailers deploying the technology in significant numbers. More than a fifth of all respondents report that they are currently using wireless POS line busters in their stores – 10% have the technology in place now, and another 12% are currently in the process of rolling it out (Gartner, 2005).

## **5. Research**

Globally, the retail and distribution sectors have been impacted by a variety of technologies. Most of the technological impacts have had a positive effect on retailers and benefited them as well as the customers. Adaptation to technology makes enterprise more agile, creating competitive advantages in the long term, process improvement and optimisation, the ability to respond to customer requirement quicker and sustaining a steady growth. First and foremost, retailers should have the ability to adapt to new technologies. Though retailers are able to adapt to better, reliable and sophisticated retail technology, adaptation alone will not yield any profit, market share and business growth. It is possible to draw the benefits of technology, only if the retailer has the ability to implement, practice and utilise the same technology.

### **5.1 Research Objectives**

The objective of this study is to understand and investigate the current ability to adapt, implement, practice and utilise the information and communication applications of electronic technologies by the Indian grocery and vegetable retailer in the emerging organised retail sector. Hence, a study is needed to explore the facts of the 'e' ability of retail in the organised market and an exploratory study was carried out. As the Indian organised grocery and vegetable market is very huge by its geographical spread, and taking in to consideration the resource and location constraints, the study has been conducted at the city of Chennai. Also, electronic devices, Bar coding readers (BCR), Electronic Cash Register (ECR), Electronic Weighing Machine (EWM), Electronic Point-of-Sale (EPOS) and Electronic Payments System (EPS) have been selected for the study.

### **5.2 Methodology:**

Organised retailers have been classified in to three types for this exploratory study purpose; viz. Corporate Retailer, Regional Retailer and Neighbourhood Retailer. They have the distinct ability to adapt themselves to the electronic environment, but differ in the coverage of processes, usage and practice of information, communication and electronic technology. Corporate Retailers are all operated by corporate houses, both domestic, International, and joint ventures, with multi format outlets and operations across the country. For this study, five corporate retailers having operations in the city of Chennai have been included - Food Bazaar (Pantaloon Retail (India) Ltd), More (Trinethra Superretail Ltd.), Reliance Fresh (Reliance Retail Ltd.), Spencer's Retail Ltd and Subhiksha Retail Ltd. Regional Retail operators with supermarket format chains are active in a specific geographical area in a state. Regional retailers of Chennai who constitute 9 numbers are part of this study. Neighbourhood Retailers are those running their business in a locality with single store



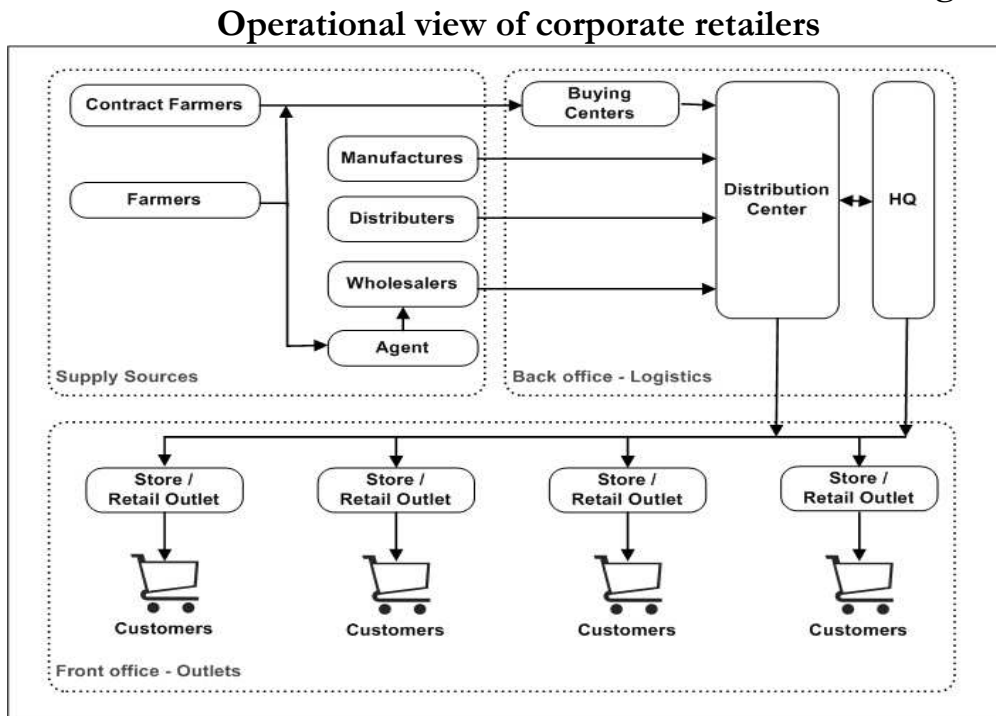
establishment or a few outlets. Their formats are department stores, discount stores or specialty stores and 40 of them have participated in this study. Personal interviews and Questionnaires were the instruments used. The questionnaire consists of open-ended questions and the interviews were semi structured. The findings of this study are useful to understand the readiness and ability to adapt to new technologies of organised grocery and vegetable retailers. The retailers over all budget allocation analysis for technology as well as studying reasons for retailer's ability to go for technology are not part of this research. This is the limitation of this study and also the scope for further future research.

#### **6. 'e' Ability of Corporate Retailers**

Currently the five corporate organised retailers are practicing the 'Hub and Spock' model of grocery and vegetables chain with minor modifications to fit in to their marketing and logistical strategies. Their operations can be categorized in to three functional areas, viz., supply source, back office entities and outlets, as illustrated in figure 1, usage of electronics in figure 2, and system view deployed at the distribution centre, head office and outlets shown in figure 3. Corporate retailers are aggressively implementing the latest information and communication technology in a phased manner. Spencer's has completed their ERP system - SAP implementation, covering the eastern and northern regions of India. Retail technology products like RFID, Digital Cheque Reader (DCR), Digital signature capture (DSC) device, EDI and interfacing with suppliers are not part of their plan to implement in the near future. Software products, like customer relationship, supplier relationship management and

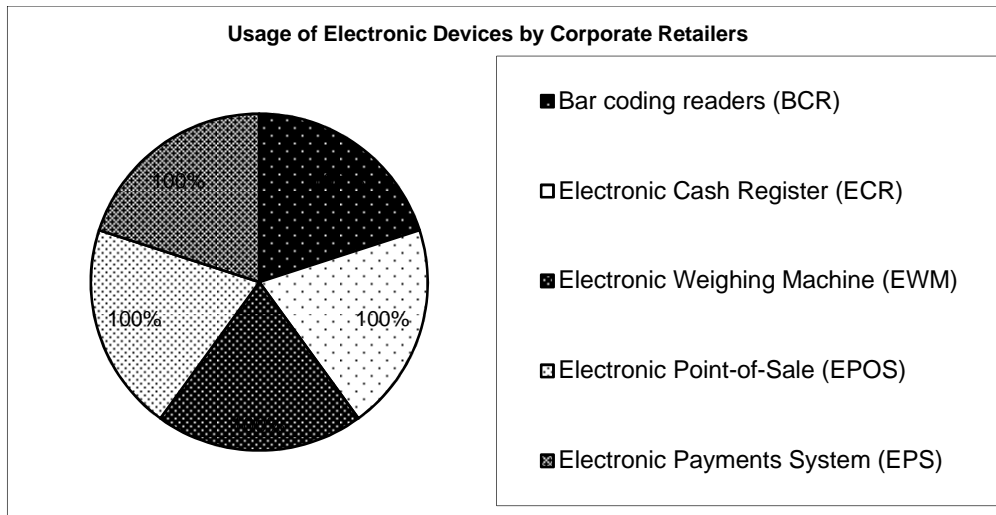


Figure 1



*Source: Field Survey conducted by the author*

**Figure 2**  
**Usage of electronic devices by corporate retailers**

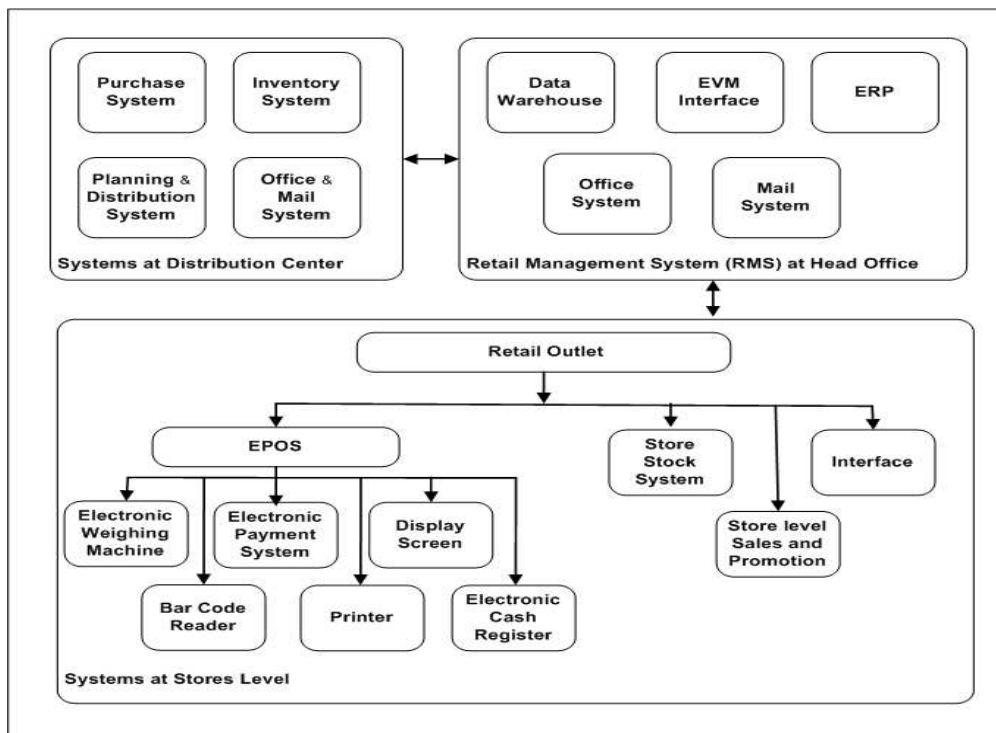


*Source: Field Survey conducted by the author*

e commerce are yet get a thrust. The codifications of the stores' label products are not as per the GTIN or adhere to the Uniform Code Council standards but follow simple numerical codes. Technology also facilitates the organisations standardization across business locations and technological capability aided them to graduate to consolidated planning at the national level, and detailed scheduling at the store level. Business Intelligence (BI) tools are used to analyse the trends and patterns for sales from the retail sales data capture through transaction systems. Overall they are "e-Able Organisations" for the current volume and spread of businesses.

Figure 3

## System view of corporate retailers



Source: Field Survey conducted by the author

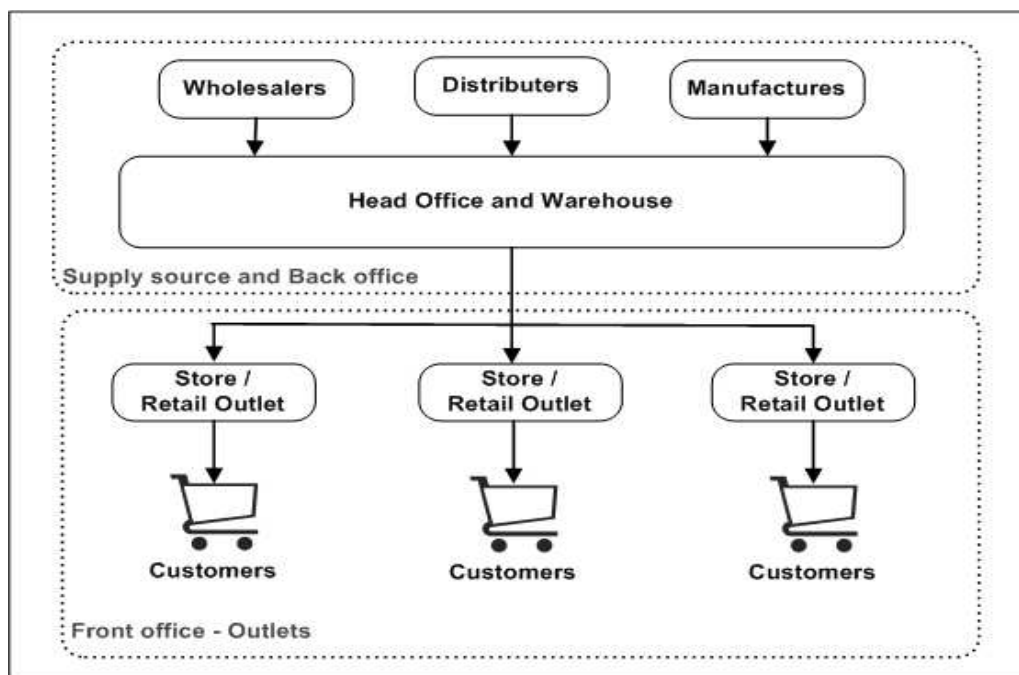
## 7. 'e' Ability of Regional Retailers

The regional retailer's operational model, usage of electronic devices and system model are shown in figures 4, 5 and 6 respectively. As far as information flow is concerned sales outlets and back office are unconnected islands, and no network connection exists between stores. They have implemented the EPOS system for faster and accurate counter sales. Product coding is carried out at the individual store's level; manufacturers' bar codes and the allocation of code numbers for stores' label products are carried out centrally. The EPOS

includes multiple terminals of bar code readers, electronic cash registers, display screens and printers. A stand-alone electronic payment system is available with a store level interface. Individual stores transactions are reported by the stores manually and analysed manually by the head office.

Figure 4

## Operational view of Regional retailers

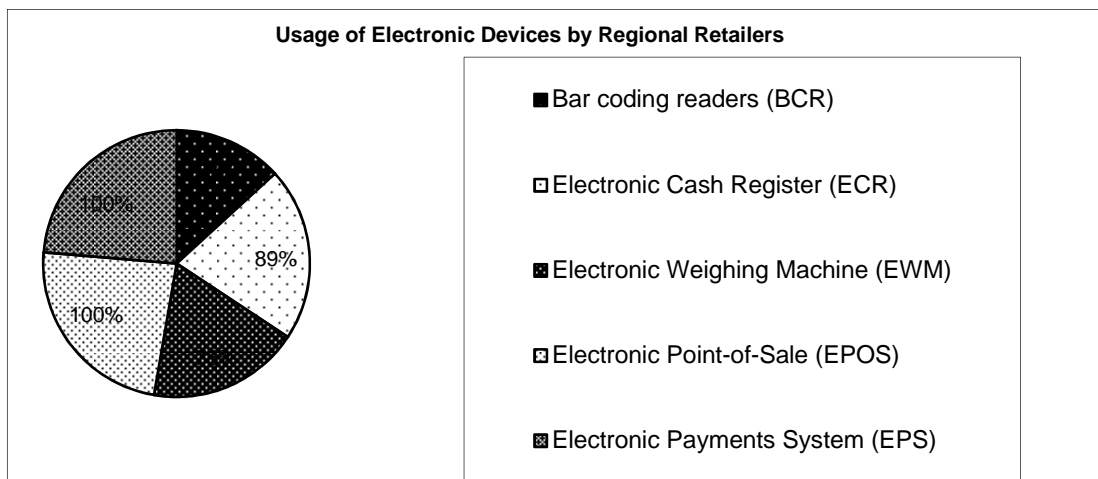


Source: Field Survey conducted by the author

The 'Digital Gap' – the gap between deploying technology and utilization of the same facilities prevails with regional retailers. For example the discount retailer 'Saravana Stores', to some extent adapted to 'e environment' for goods receipt and vendor payment, but has not

utilising product codes; both manufacturers' codes and code for private label products during EPOS transactions. This lack of 'e ability' leads to unfriendly customer service.

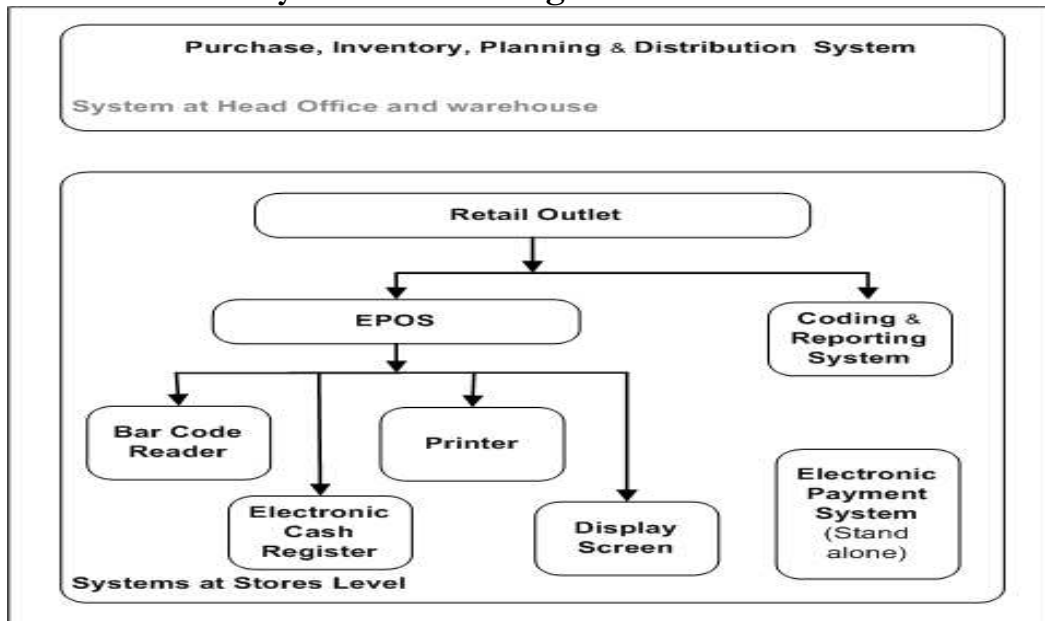
**Figure 5**  
**Usage of electronic devices by regional retailers**



*Source: Field Survey conducted by the author*

Figure 6

## System view of Regional retailers



Source: Field Survey conducted by the author

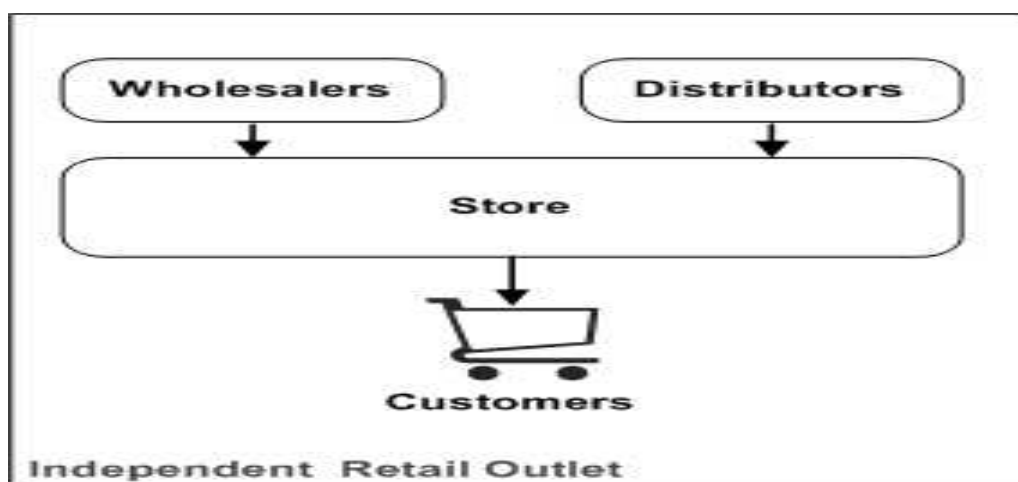
These retailers are yet to realise the benefits of technology in terms of cost savings, accessibility of information, transparency and accountability, but they are at a situation wherein most of the business activities are technology-dependent. Regional retailers are not using any business intelligence (BI) tools for analysing the sales data. Currently, regional retailers have a low level of 'e ability' and very limited utility of technology in the area of inventory, vendor payment and EPOS.

### 8. 'e' Ability of Neighbourhood Retailers

Neighbourhood Retailers, who have a one stand-alone shop, are carrying out business with a simple model of operation as shown in figure 7, electronics device usage as shown in figure 8, and system as shown in figure 9. They have a limited source of supply; vegetables

and grocery sourced from local wholesalers, and consumer goods from distributors. The deployed system is for product coding and

**Figure 7**  
**Operational view of neighbourhood retailers**

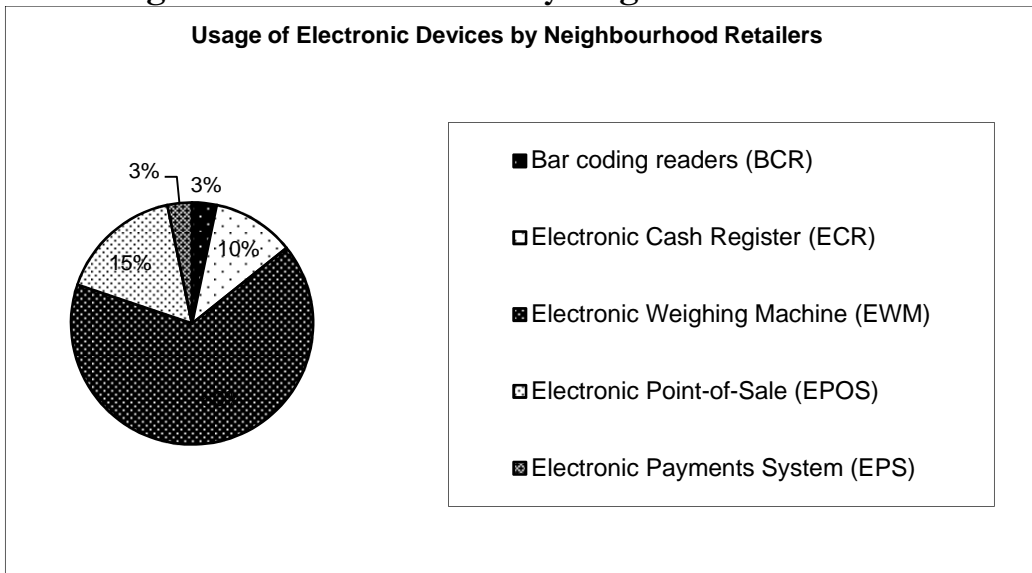


*Source: Field Survey conducted by the author*

EPOS. The EPOS covers the bar code reader, display screen and printer. A stand-alone electronic payment system is also part of the stores facilities. Most of the retailers are using EPOS as a step towards modernising business operations. It has additional benefits for retailers; better counter sales transaction handling and accurate cash accounting. Planning, ordering and decisions on product range are still manual by owner managers. Current electronic devices and the system

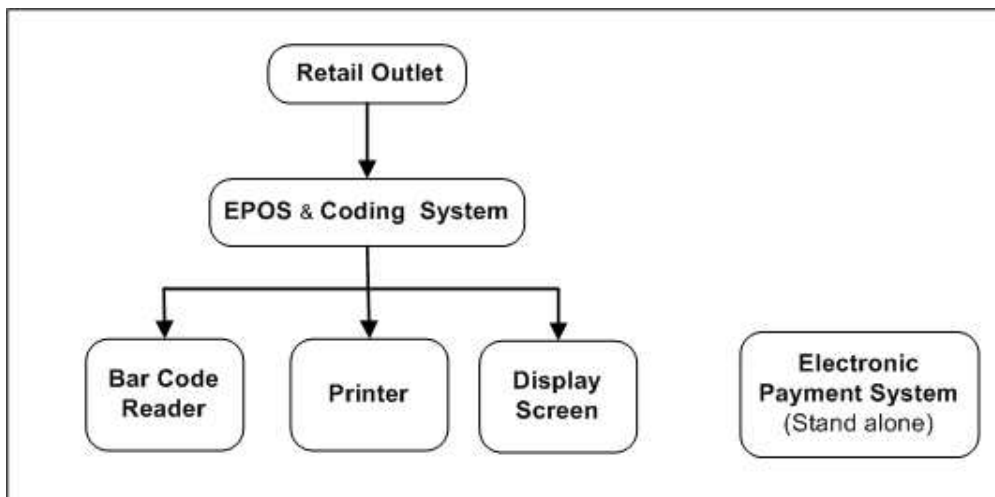


**Figure 8**  
**Usage of electronic devices by neighbourhood retailers**



Source: Field Survey conducted by the author

**Figure 9**  
**System view of neighbourhood retailers**



Source: Field Survey conducted by the author

infrastructure of these Neighbourhood Retailers are not capable of supporting high volume of transactions and wider assortments. Digital disability persists across all the independent retailers.

## 9. Conclusion

The study reveals the current status, ability to deploy and utilisation of electronic equipments, information technology and communication technology by the organised grocery and vegetable retailers. Organisations can only be effective if they have the capability to adapt to new technologies. Retailers are adapting to information, and communication technological solutions to build and integrate business operations to compete and cooperate with business partners. Table 1 illustrates the usage of electronic devices by the three types of organised retailers, and the device wise usage between the three retailers is compared in figure 10.

**Table 1**

### Electronics Device usage by retailers (%)

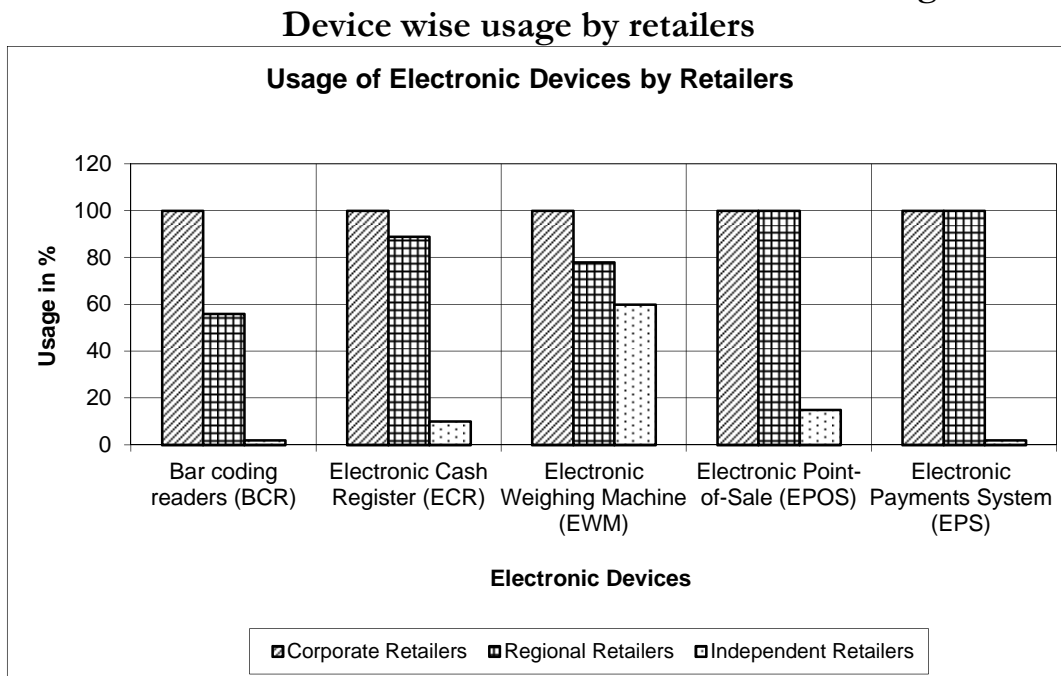
Electronics Device	Corporate Retailers	Regional Retailers	Neighbourhood Retailers
Bar coding readers (BCR)	100	56	03
Electronic Cash Register (ECR)	100	89	10
Electronic Weighing Machine (EWM)	100	78	60
Electronic Point-of-Sale (EPOS)	100	100	15
Electronic Payments System (EPS)	100	100	03

*Source: Field Survey conducted by the author*

The automated and fully integrated environment provides retailers with more efficiency in the complex retail business. Corporate retailer's technology is spreading from point of purchase (POP) to the point of sale (POS). Corporate retailers in the grocery and vegetable

sector are 'e- Able organisations' with a lot of scope for further improvement to match with global players, and they are capable of taking up challenges. Technology definitely serves as an enabler for regional organised retailers who operate in the grocery and vegetable sector. The implementation of technology is slow and the 'Digital Gap' is wide with regional retailers.

Figure 10



*Source: Field Survey conducted by the author*

Technological disability persists with neighbourhood retailers. Enabling customers with a better or world class shopping experience with technology is a fast-growing trend in organised grocery and vegetable retailing.

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