ABSTRACT

In today’s era, digitalization has changed the way the businesses carry out their operations. The wave of digitalization, for instance, has enabled the business enterprises to manage their supply chain more efficiently and effectively, by making use of the existing digital landscape. The digital supply chains not only have the advantage of cutting down the accumulated cost of supply chain network but also have the advantage of reaching to their ultimate esteemed customers in terms of enhanced reliability, effectiveness and expeditiousness. The reaping benefits of this transformational model will be a blessing for the companies opting for this platform and will make the companies handicap not responding to the revolutions business era. The charismatic view of the proactive nature of management of Supply Chain using the digital platform, has received irresistible response from the business houses/companies, who are gushing towards the adoption of this gift of technology. The objective of our paper is to explore the companies engraving their supply chains with digital networks and building their business models in collaboration with the remodeling technology. We will also focus on studying the current ongoing issues of the supply chain management in the digital age and the challenges being faced by the companies opting this of remodeling of the supply chain. For the purpose of the study, mainly secondary data will be used i.e. concerned companies websites, journals, newspapers, articles, etc. But to explore further, an attempt will also be made to collect information by making a visit to companies, to understand their replica of supply chain model.

Keywords: Digitalization; Supply Chain; Transformational; Networks; Remodeling

INTRODUCTION

Supply chain management has become an important area of management of business enterprises. The concept supply chain implies the chain or the series of steps followed by the businesses to make their products available to the final consumers. For instance, first the product after the manufacturing goes from manufacturer to the distributor, who in turn passes on to the retailer and the retailer finally deliver it to the final consumer. This is termed as traditional supply chain, where there is physical flow of goods from one party to another and so on. But, with the changing time and with the updating technology, there is showering effect of technological upgradation on the business operations too. In other words, the effect of change has also entered into the management of supply chain networks by the companies. This is because of the ongoing era of the globalization, where the supply chain coordination of becoming global businesses has become a necessity for businesses but a harder to manage aspect for the businesses. Thus the need has arisen for management of supply chain by the companies for becoming more transparent which would help the companies to have real time information about each aspect, area or part of the supply chain. This whole chain of managing the supply chain in the digital world by the companies by adopting technology or networks and software, can be referred to as digital supply chain management or e-supply chain management. This digital revolution has made easier for the consumers to express their need and experiences about the products
and services directly to the companies through networks. But the digital supply chain management has
not less benefitted the businesses too, for whom the digital era technologies and softwares have
emerged as a blessing to manage their supply chain networks nationally as well as internationally /
globally. Thus, the companies which are recognizing the digital concept in their business operations
for management of their supply chain will eliminate the supply chain process silos and will enjoy and
embrace the fruit of increase visibility of their supply chains and will have a real time and better
control by synchronized processes along the supply chain. This all will be possible for the companies
by adoption of the new technologies which will enable the companies to have real time supply chain
information and will ensure excellence in to the companies in every aspect of their operations
of supply chain. In the whole, the digital aspect of the supply chain or the management of the supply
chain networks by adoption of the updated information, communication and technology networks will
be a boon for the companies by reducing their costs and by acting as a rising ladder in the ongoing
competitive, globalised and digital era.

OBJECTIVES OF THE STUDY

Our primary objective of the study is to study the supply chain of the companies i.e. how companies
are managing their supply chain in the global era and whether they are reaping benefits of the ICT or
the digital platforms for conveniently and efficiently and effectively managing their supply chains.
Thus our objectives of the study are as follows:

1. To study the companies using digital platforms
2. To study how those selected companies are managing supply chain

LITERATURE REVIEW

Not much study has been conducted in the field of digital supply chain management, but certain
studies that has been made in the field of supply chain management is as follows. Griffin, Paul., and
Thomas, Douglas.(1996).in their study about ‘Coordinated supply chain management’ concluded that
independently managing facilities in a supply chain may prove poor for the companies, because of the
opening up of the markets in the era of globalization which is adding complexity in the supply chains
and thus with advances in communication and information and technology , the firms are having an
opportunity for making savings in their logistics costs. Lee, Hau and Whang, Seungjin.(2001) in their
study ‘E-Business and Supply Chain Integration concluded that the companies that will make use of e-
business to redefine their supply chain integration will achieve significant increases in their efficiency
and will gain competitive advantage over other companies. Chandra, Pankaj and Tirupati, Devanath
(2002) in their paper titled ‘Managing Networks in the Emerging Networks-The story of Amul have
studied the unique supply chain network and business model of the Amul. Swaminathan, Jayashankar
(2006) in their study about Managing Supply Chains in India studied the opportunities and challenges
faced by the companies in managing their supply chain. Alzubi, Haitham (2010)studied on about
‘Applying Electronic Supply Chain Management Using Multi-Agent System: A Managerial
Perspective’ reviewed the recent trends of supply chain management in the perspective of e-commerce.

RESEARCH METHODOLOGY

For the purpose of our study, we have used secondary data i.e. we have chosen the companies which
are renowned for their best supply chain management and have taken information from the their
respective websites and related articles and brochures of companies and to explore further Primary
data has also been utilized by visiting companies like Philips, Verka and Saffron Medicare Pvt. Ltd
and interviewing from their respective supply chain managers to have an idea of how they are utilizing
technology for managing their supply chain.

The Following Section will focus on the selected companies and their way of managing supply chains
in the digital era.
Philips- Philips Company, a Netherlands based company which in our lives is famous and known for its lighting business, is smartly managing its supply chain by mainly using ERP software i.e. Enterprise Resource Planning and thus they are not only conveniently and effectively managing their supply chain but also are reaping the benefits of efficiency in terms of reduced costs. The company said that with the help of ERP software, it has become easier for them to manage every aspect of supply chain, be it in the field of sales accounting, stock accounting or making estimates about the inventory level. Some of the areas where the company is reaping benefits are as follows:

1. Stock accounting has become easier for the company in the sense that they are having visibility of stocks at different depots and their consumption pattern.
2. For Sales Accounting, the managers can have a view of daily invoicing taking place across the country which helps in determining how much stock is consumed and how much is required to refill the stock levels.
3. For determining raw material consumption, ERP provides the company about the information of daily consumption of raw materials on daily basis which results in auto PO(Purchase order) creation for further ordering, thus making the company proactive and managing their supply chain effectively.

This all has become possible for the company about having information about every aspect and part of supply chain by sitting at one place and using digital platform.

Verka- Verka Company which is known to us as a dairy product company has also not lagged behind for reaping the fruits of digital platform. Though, it is not at its advanced stage for adaptation of digital platforms, but still it has started using networks and softwares for order management. The verka company is using SAP and is mainly used by the company for order management. For example, earlier at verka plant they used to manage orders manually and generate invoice slips to different dealers. But now, with the help of software the order schedule making i.e. how much order has to be sent to which dealer and how many trucks are required to be sent at which place has become easier for the companies.

Saffron Medicare Pvt. Ltd.- It is a marketing company which gets its products manufactured from various manufacturers as per their own banners. The company is using Marg software which has all the features of ERP. This software is helping the company for timely order fulfillment for various areas and has proved as an effective and efficient system for the company for managing its supply chain. For example, otherwise without this software the whole process of order management would have been time consuming and costly. Moreover, it also provides real time information to the company’s headquarter wise, about how much supply/order has been sent and from where payment has been received and so on. And thus, overall, as the company is able to get area wise reports regarding orders, it has prevented the company from delays in the order fulfillment.

Amul- Amul which was formed as a dairy co-operative movement in India and which formed apex co-operative organization called Gujarat co-operative Milk Marketing Federation (GCMMF), is integrating its supply chain with the technology from many years. The earlier initiative was taken in the form of AMCUS(Automatic Milk Collection System Units) at village level which it has been utilizing to capture member information, milk fat content, volume collected and amount payable to each member. Then, it has also been using ERP software for effective market planning including promotion planning and distribution planning. This has enabled amul to connect its main office with other offices set up at different regions or states and thus those offices can continually update the records regarding sales and inventory levels, which will also be visible at its main office at Gujarat. Thus, the use of ERP has enabled Amul to have real time information about sales and inventory levels of every region where its offices are located. Moreover, for getting real-time location and vehicle activity, it has installed GPSAVL technology integrated with premier mapping technology on all its milk collection tankers, which provides the fleet managers of Amul the control that is required to
manage their daily milk collection operations. In a recent move, Amul has taken initiative to adapt to ‘Business Intelligent System’ which is a move taken by Amul to make its entire supply chain more transparent. This move has been planned the cooperative to be implemented in a phased manner and in overall three phases. Thus, this, digital platform, will not only help the federation to make its supply chain more transparent but will also be beneficial for the government while deciding and taking initiatives for providing grants and subsidies to the farmers.

**Mahindra’s-** Mahindra Company which was founded as a trading company and with time which forayed and diversified its business into many new areas like automotive, retail, rural finance etc, has also re-engineered its supply chain processes to reap the benefits of technology and manage its business effectively and efficiently in the globalised era. For this, the company has been utilizing softwares of digital platform like SAP’s APO, SRM, e-tracking etc. Adoption of these softwares has helped the company to reduce its overall costs for supply chain management apart from increasing the satisfaction of customers. This all has also helped the company to reduce its required inventory levels. Earlier, for example, the production scheduling and material procurement of the company was done by each of its plant respectively but with the adoption of digital platform i.e. by using APO (Advanced Planner and Optimiser), this has become easier for the company as this helped the company by generating the schedule regarding the materials supplies to the plants and also from on plant of the company to another plant. Thus, it helped the company to reduce its overall time for planning and scheduling to a great extent. To make its production scheduling more accurate and transparent, the company has also installed GPS in its trucks, for the purpose of e-tracking to carry out its production scheduling on the basis of inventory in transit rather than on the basis of vendor commitment. This not only helped the company to improve its product scheduling to avoid over production but also helped it to reduce its transit time by making aware the truck drivers who will no more can make un-necessary stop/delays in transportation. On the other hand, to keep an eye on the suppliers, which constitute an important element and part of the supply chains, the company introduced SRM module of the SAP software. This has made easier for the company to analyze the performance of its suppliers regularly in terms of how much order has been accepted by the suppliers and moreover the company can also have an eye on the shipping notifications for the materials in transit and so on.

**ITC-** ITC, a diversified portfolio of companies i.e. a company which has its presence in a number of businesses like tobacco, retailing, hotels, commodity export, hotels etc. is one of the companies which has made use of the digital platform in a different and smart way. For instance, ITC in its agribusiness has utilized the ICT platform in a smart way by the introduction of e-Choupal. Choupal implies village, so e-choupal is an initiative taken by the company to connect to villages through internet platform, and thus re-defining its agro-supply chain. In other words, this is a medium which is being used by the company through the creation of electronic portals in small villages, with the help of which farmers are able to get the latest information about the modern farming practices, market price, weather conditions. This has enabled the company to form a direct link with the farmers via e-portals thereby reducing multiple layers of supply chain. Thus, it has not only benefitted the farmers in terms of better prices and more profits, but also to the company in terms of proximity with the farmers and lower costs for management of its supply chain in agro-business. This whole initiative has been made possible with the blend of software applications i.e. CRM and SCM.

**Maruti Suzuki-** Maruti Suzuki Company, which has always been the best and which has always been favoured by Indian consumers, has been taking continuous efforts for integrating its supply chain to make it more effective and transparent. The company has been using e-Nagare system for managing its inventory level and for replicating the just-in-time inventory system of Japanese origin. This system has helped the company to achieve higher levels of operational effectiveness and thereby for reducing its inventory carrying costs. This electronic flow system that has been adapted has helped the Maruti to wholly and completely transform its supply chain. Not only this it has its fully automated warehouses which gives real time information to the company about loading-unloading and pick-up and carry of the equipments. Besides this it has also been using a combination of other programmes and softwares
like Unix Shell programming, Oracle, .Net and others to bring out more transparency in its supply chain. These all provides the company a real time information about the entire supply chain beginning from the order of the distributor to the production and finally upto the shipment. Not only this system is beneficial to the company but also to the distributors connected with company, as these softwares enable transfer of information regarding orders and dispatch status to the distributor too.

**Samsung** - Samsung Electronics, which is a leading Korean company and which is having its footprints in the global marketplace and which has been ranked 1st and best by the research firm Gartner in the Asia pacific region for its best supply chain management globally, has been carrying out innovative projects to strengthen its supply chain. To move towards its vision of becoming a Global Value Creating company, the company has adopted an Integrated Global S-ERP System to standardize its business processes between the headquarters and the overseas bases. This system has enabled the company to augment its risk management activities by making it possible for the company to share its management information on a real-time basis. Not only this, the system has facilitated the management and monitoring of its business operations globally by providing it with the real-time information about every aspect of its supply chain, be it about the sales or other financial information. Thus, every employee has a real time information managed by this system anytime and thus has made possible for the company to respond to the dynamic global business environment on timely basis.

**FINDINGS AND CONCLUSION**

Thus, the phase of digitalization has changed the way of how the businesses/companies are managing their global businesses. It has come as a blessing for the companies for whom otherwise it would have been challenging and much difficult for managing their supply chain networks across different countries. The digital platform has enabled the companies to have real time information about their every aspect, part and element of the supply chain, for instance by sitting at one place we can have access to every information about stock levels at various places, number of orders pending and fulfilled at various place of business, number of goods or products in transit i.e. e-tracking has been made possible by adoption of GPS on the transportation vehicles of the companies and so on. No doubt, the companies have moved towards digitizing their supply chain to survive in the dynamic global era, but how well they are able to manage their supply chain makes a difference. For example, in the Asia pacific region Samsung was ranked 1st for management of its supply chain as it has been considered best for using practices like demand sensing and its shaping, segmentation and collaboration which helped it to manage the volatility in demand and thus delivering the company the best predicted results.

Therefore, in a whole we can conclude that the aspect of digitalization has emerged in the company’s supply chain as a transformational model which has changed the way businesses manage, plan and execute their every decisions across the supply chain. This model has not only come as a blessing for the companies but also for the consumers who can customize and fulfill their demands by sitting at their homes. For instance, the cyber store portal of amul enables the consumers to make order of amul products by sitting at their home. For all this, i.e for management of supply chain in the digital era, mainly ERP system is being used by the companies. It gives the new track to the businesses to run in a systematic way to handle each and every activity related to the business on a single track. Thus, indeed, the era of digitalization has come as a blessing and transformational model of the today’s era.

**REFERENCES**


