

After Sales Service – A Customer Binder in VUCA World

Mohan B Rao¹, Dr. S. N.V. Sivakumar², Ritu Sinha³

¹IES Management College and Research Centre, Bandra Reclamation, Mumbai 400050.

²K. J. Somaiya Institute of Management Studies and Research, Vidyanaagri, Vidyavihar, Mumbai 400077.

³IES Management College And Research Centre, Bandra Reclamation, Mumbai 400050.

Abstract: *Changing business environment, the VUCA (Volatile, Uncertain, Complex and Ambiguous) world and globalization are pitching many challenges before the businesses. After-sales service is one of the elements that helped firms to differentiate even in the eyes of customers. It is believed that after-sales service is a strong marketing tool which helps firms to be competitive. In today's setting wherein change is the only constant; data puts power into customers hands; environmental crises are real; including many other happenings it is strongly felt that good after sales service or customer service, as it is normally referred to, is the answer for customer retention. Applying the 'solutions strategy' to VUCA will help companies lead the customer service team through times of rapid change. The research focuses on after sales service for consumer durables and home appliances and is based on extensive literature review in addition to the some aspects of qualitative and action research methods. The study is an attempt to gain improved understanding of the dimensions in after-sales activities and the role of these in expanding or sustaining business. It suggests that customer experience management helps in addressing address volatility, uncertainty, complexity and ambiguity in market place.*

I. Introduction

Changing business environment, the VUCA (Volatile, Uncertain, Complex and Ambiguous) world and globalization are pitching many challenges before the businesses. VUCA is an acronym which means volatility, uncertainty, complexity, and ambiguity. It finds its origin emerged from the military in the 1990s and refers to the chaotic conditions that are encountered on a modern battlefield. Surviving and excelling in a volatile, uncertain, complex, and ambiguous world demands preparedness and agility to handle the situation at hand. At the same time, it opens the door to a range of new competencies that are required to succeed. Organizations need to be creative about the processes they employ to accelerate the growth which is highly influenced by leadership style. The ability to create a vision, engaging others and change management is necessitated to thrive in a VUCA environment (Mancesti Marco, 2015). Schoemaker Paul J.H. (2015) mentions that companies are constantly re-evaluating their strategy to enable them to thrive in VUCA World. Many companies are discovering the need to go beyond technology. Service is proving to be a source of competitive advantage and enables a challenger to attack and overtake the leader. After-sales service is one of the elements that helped firms to differentiate even in the eyes of customers. It is believed that after-sales service is a strong marketing tool which helps firms to be competitive. When customers bought a product they had certain expectation for the post purchase support offered with the product or services. Constant change can set people on edge because consumers look for the certainty. As a company it is important to accurately anticipate, reassure the stability, transparency of process and plan for the future. Also, maintaining clarity of communication with customers and employees, moving out of the comfort-zones would build a future ready organization. Being open to change and knowledgeable about the organization beyond their function would help in its sustainability.

Global Appliance Industry

According to IBM, 'Service' which usually meant 'repair' or 'maintenance' to a consumer, gives different meaning and present opportunities by pervasive networking and internet of things. This results in wide range of services with virtually limitless revenue. For example, microwave oven manufacturer can work with food suppliers, enabling customers to scan items before they go into the oven, retrieve cooking instructions and other useful information, or establish automated cooking cycles. Further in the future, a video of a TV chef could be downloaded to guide the customer through the preparation. IBM cautions that suppliers need to be considering how the household will be run in the future and the implications of this fundamental transformation to their business models. By taking advantage of falling communication hardware costs, networked sensors and always-on Internet connectivity, new services can be created at product design stage and brand differentiation can be achieved. The Internet is evolving to interconnect all network-attached devices, effectively becoming the largest data acquisition and control network. However, as things stand it is only the high-end models whose prices can comfortably incorporate the technology.

Trends in Customer Service

Modern consumers are more tech-savvy as compared to the consumers during past generations. As technology brings innovation and business transformation, the shopping and buying habits of consumers are undergoing a sea-change. Consequently, usage of newer technologies in performing business transactions, consumers have higher expectations when it comes to customer service and sales support. In recent years, consumers have placed greater importance on the quality of customer service than on the price and quality of products alone. Globally manufacturers are updating customer service strategies to ensure that they address the issue of mobility of customer; be available across all channels and all the time; incorporate self-service tools; be available on social media platform and more importantly live chat with consumer. Interestingly the trend shows that customers are prepared to pay more for customer service and will always want to make the first move.

It is no secret that consumers have grown increasingly impatient over the last few years. According to Forrester, 55% of US online adults are likely to abandon their online purchase if they can't find a quick answer to their question. 77% say that valuing their time is the most important thing a company can do to provide them with good online customer service. Accenture calls today's modern consumer the "non-stop customer," meaning that they access as much information as possible (across all channels) before making purchasing decisions. While poor customer service is always a problem, customers tend to complain more about slow or delayed support more than any other issue. Instant access to digital channels enables consumers to make instantaneous online purchases. However, this means that consumers also expect to receive customer service and sales support just as instantaneously when accessing digital channels.

II. Literature Review

Customers, who acquire various types of products ranging from refrigerators to computers, require support at some time during their utilization or product lifespan so that they can get maximum value from their purchase. Asugman, G., *et al* (1997) defined after-sales service as those activities in which a firm engaged after purchase of its product that minimize potential problems related to product use, and maximize the value of the consumption experience." Saccani N, *et al* (2006) defined after-sales services for manufactured goods encompass the set of activities taking place after the purchase of the product, devoted to supporting customers in the usage and disposal of goods." Irini D. Rigopoulou *et al*(2008) defined "As a term, after-sales services has been used the most; to describe services that are provided to the customer after the products has been delivered."

According to Heskett *et al* (1997), four basic elements affected customer satisfaction. They are: the basic elements of the product or service, basic support services, a recovery process for counteracting bad experiences, and extraordinary service. As customer needs and expectations are changing all the time, this would lead to a situation whereby customers kept setting ever higher standards, and therefore to achieve perfection was impossible.

Vandermerwe, S., and Rada, J. (1988) mentioned about selling product-services and calling it as "servitization" which includes integrated packages of products, services, support, self-service and knowledge. They also termed servitization as a change process wherein manufacturing companies embrace service orientation and/or develop more and better services, with the aim to satisfy customers' needs, achieve competitive advantages and enhance firm performance.

Mont, Oksana (2001) said that service increasingly becomes an element of the offering from product extension to utility and result solutions, thereby relationship between product and service was complementary rather than substitutive: products tend to be reinforced by services. Most organizations find that the transition from pure-product to pure- service providers is a continuum and manufacturing firms moved along this axis as they incorporated more product-related service. The product service continuum was a long-term gradual process which drove companies from being pure manufacturers towards being, firstly, suppliers of simple services as product add-ons (Product-Extension services) and, in a second instance, providers of more forward-looking solutions, wherein customers benefited from the functionalities and/or utilities created by the product-service package (Product- Utility and Product-Results services).The key idea was that consumers did not specifically demand products, but rather they were seeking the functionalities that these products and services provided. In any case, phases of product service continuum, both in terms of simple services and of more complex solutions needed to be carefully monitored by companies and required the creation of business models, organizational structures and knowledge new to the product manufacturers.

Tore Markeset, T., and Kumar, U. (2003) made a very important observation, that while developing products/ services one had to factor in consequences and benefits which affected customer expectation and satisfaction. Customer satisfaction was not only decided by value and performance of a product purchased but by the total value received, and by quality of interaction and relationship experience throughout the service life of the product. Numerous thought leaders mentioned that after sales service was more than merely fixing what had gone wrong, which appeared to be the primary function of many after sales service functions.

Manufacturers should anticipate the after sales needs in product design, but experience showed that manufacturers did not incorporate customers' concerns actively enough at the product design phase. In the case of durable goods, at least customer, dealer, third-party provider of service, the manufacturer of the tangible product, and the supplier of parts and components could be involved in the after sales service operations. Most companies need to sustain competitiveness, manufacturers need to move up the value chain (of Michael Porter) and focus on delivering knowledge intensive products and services so as to enable customers to address future challenges. More importantly companies must radically change the way they operate, moving beyond their product strategies and converting them into product-service ones.

Panizzolo R. (2008) mentioned that customers' behaviour had changed dramatically, whereas once customers purchased products by basing their decision primarily on tangible aspects, today their purchasing decision was affected by a far wider range of needs that manufacturers had to cover by widening their portfolio of services. As a point of being unique and avoiding to compete only on the basis of costs, companies needed to strive in ensuring a long-lasting steady relationship with the end customer through the life of the product. They needed to offer services and solutions by delivering products with tangible and intangible elements of product.

Baines T., *et al* (2009) mention that servitization is now widely recognized as the innovation of an organization's capabilities and processes, to better create value through a shift from selling product to selling product-service systems (PSS). To be competitive, sustainable, and differentiate itself, it is one of the key strategic choices that the manufacturers can consider for long run business perspectives. Today, many Japanese leading companies like Fujitsu, Toshiba, Hitachi and so on embraces this concept as a service-led competitive strategy, environmental sustainability, and the basis to differentiate themselves from competitors who simply offer lower priced products. But, transforming from product manufacturing to product-service system is not an easy strategic choice and that a manufacturer first needs to carefully design its services. To succeed with servitization, a manufacturer is likely to need some new and alternative organizational principles structures and processes. Consequently, the firm needs to understand the success factors, which is undoubtedly important towards implementing servitization strategy.

Neely A *et al* (2011) analyzed the incidence of companies providing solutions of product and service and surveyed manufacturing companies of which more than 30% of industrial companies belonging to developed economies. Neely observed that companies are not motivated to move towards the provision of services in the emerging countries.

According to Neely A. *et al* (2011), servitization involves the innovation of an organization's capabilities and processes so that it can better create mutual value through a shift from selling product to selling "Product-Service Systems" which can be categorized as:

- Product-Extension services - Customer owns the physical good and product-extension services enhance the utility that the ownership of the product delivers to the customer (e.g. repair, maintenance and upgrading and take-back, etc.). This was commonly referred to as "after sales services".
- Product-Utility services - this category refers to two main areas of service which are connected with rentals and leasing. The provider is the owner of the product but the customer uses directly the product and the related service (e.g. car-sharing, use of refrigerator in hotel room; leasing).
- Product-Results services - this was a situation where a provider supplies a complete solution to an on-going need for a customer. The customer does not own and use the product, but uses only the functionality and the results created (e.g. frozen food inside a refrigerator in a shop).

Therefore, in today's services- dominated economies, companies are shifting from a product-centric to a customer-centric view and a solution provider. After-sales service factor can become a key differentiator and a major profit source. Various studies have confirmed that after-sales service no longer seen as a set of operative activities; rather it plays a strategic role. It redefines the product-service mix offered to the customer and organizational configuration. The white goods market leveraging on the complex services demands a long term relationship with a service provider. This relationship can reduce consumer stress as their special needs are accommodated, and the consumer learns what to expect (Bitner 1995). These proclaimed benefits, both for buyer and seller, have led researchers to examine the effectiveness of after sales service in maintaining the quality of customer relationships (DeWulf, Schroder, and Iacobucci 2001). Globally after sales service is considered to be integral to a brand, hence it is important to integrate product and service at product design stage and attempt to offer wide ranging solutions so as to impact on overall marketing strategies.

III. Research Study

Researchers have tried to understand the dynamics of development and maintenance of after sales service and its importance to the brand recall, recommendation and purchase of annual maintenance contract (AMC) along with brand equity. A literature review and qualitative research were used to understand how after sales service is perceived by white goods or appliance manufacturers. The white goods studied for research included refrigerator, washing machine and microwave oven. In-depth interviews were selected to carry out this research study conducted with a cross section of the senior/ middle management of manufacturers/ service providers. This technique allowed the participants to elaborate and with that provided more flexibility, range and therefore the capacity to elicit more information from the participant. It permits scope for individuals to answer questions more on their own terms than the standardized interview permits, yet still provides a good structure for comparability over that of the focused interview (May, 1997).

In choosing the sample for the given study, the researcher used a purposive sampling method. This form of sampling is essentially strategic and necessitates an attempt to establish a good correspondence between research questions and sampling (Bryman, 2004). The inclusion criterion was based on participants who are currently employed with the respective company for at least six months or more. In undertaking this study the researcher chose to interview individuals at middle and top management level. Data collection took place in the month of July 2016 where a smart phone was used to record the interviews and all interviews were fully transcribed verbatim. Give the broad details of the sample and the categories and companies manufacturing and selling white goods for which the after sales quality was examined from the existing users of consumers. All participants were contacted through email containing details of the research and met with personally. All participants chose to have the interviews carried out at their offices where they felt more at ease and thus allowed them to speak more freely and openly on the research topic. The questions were mainly open ended questions with a few closed ended questions relating to information such as length of employment and so on.

A pilot interview was carried out prior to the commencement of the actual research. This process allowed the interviewee to express thoughts and feelings relating to the questions. This opportunity allowed the researcher to resolve any difficulties with the wording of the questions and the structure, while also identifying any questions that might make a participant feel uncomfortable. Once the data was transcribed, it was then coded, analysed, interpreted and verified. The process of transcribing the interviews can help the researcher to gain more understanding of the subject from repeatedly listening to and reading the transcribed interviews. Coding the data began once all the data was fully transcribed. The codes applied are keywords which are used to categories or organize text and are considered an essential part of qualitative research (Sarantakos, 1998).

The data was then analyzed, categorized and organized into themes and further sub-themes which emerged through the coding process. The themes which emerged were assigned a specific code accordingly. The next stage involved interpreting the data by identifying any reoccurring themes throughout and highlighting any similarities and differences in the data. The final stage involved data verification, this process involves a process of checking validity of understanding by rechecking the transcripts and codes again, thus allowing the researcher to verify or modify hypotheses already arrived at previously (Sarantakos, 1998). While the interview process is a valuable means of collecting rich and in-depth data, it can prove to be an expensive and time consuming process. In this technique the role of researcher becomes very important. The quality of the data generated is affected by the experience, skills and commitment of the interviewer (Kumar, 2005). A risk of researcher bias can also exist in the qualitative study.

IV. Discussion And Findings

As highlighted in the secondary data and literature review, the increasing urbanization is resulting in employment opportunities in semi urban and urban areas. The changed life styles of consumers have led to the increased demand for consumer durables like refrigerator, washing machine and microwave oven. Availability of consumer credit by the banks and financing schemes by companies has given impetus to the surging sales of FMCG goods and services. Technological developments and liberalization of imports led to increased supply of FMCG goods and services thereby increasing demand for after sales services. Global corporations, like LG and Samsung, viewed India as one of the key markets from where future growth is likely to emerge.

The growing purchasing power and rising influence of the social media had enabled Indian consumers to splurge on many things. Customers are becoming assets of every business. The needs and demands of the customers must be fulfilled for them to spread a positive word of mouth. After sales service of products and services helps in meeting or surpassing the expectations of the customers. Hence the focus is shifting to the after sales, as the durables companies attempted to drive volumes and penetrate deeper into the countryside and down the value chain. Godrej Smartcare has an objective of reaching the customer “with service for a better living” and “step in with a desire of providing answers to customers appliance service needs”. After sales service plays an important role in customer satisfaction and customer retention. It generates loyal customers and makes them

believe in brand. Customers get associated with the organization for a longer duration and recommend the brand to the others. This leads to high brand recall and positive brand image in the minds of consumers. A satisfied and happy customer brings more revenues and strengthens the bond between the organization and customers.

Consumer durables manufacturers need to be able to rapidly introduce new products to meet customer demands for the latest in aesthetically pleasing, ergonomic and reliable consumer products along with customer driven level of after sales services.. As a manufacturer, they need to easily create both physical and virtual prototypes to help validate the new designs and to perform testing to ensure that products and services comply with industry and government regulations.

Many consumer durables companies need to find innovative ways to revitalize product lines by targeting usage of product by customer and integrating with other product & service providers. To do so, they must better forecast demand, improve supply chain efficiencies and manage inventory to meet ever-fickle consumer tastes. Gain control over your application portfolio across the consumer goods value chain to maximize business impact and minimize risk.

Many successful businesses use after-sales service strategies to consolidate sales, build customer relationships and grow their profits. However, the researcher had discovered that after sales service is in dire straits. Still, there are many organizations that share a new customer service vision, one that fundamentally redefines service as both a key tool to grow the value of the customer base, add more products and solutions, and an important strategic differentiator. In a move to understand how manufacturers / service providers are oriented to servitization and selling solutions the study ascertained about involvement of Board of Directors and impact areas of after sales services; value engineering obtained by after sales service; information on annual maintenance contracts; and impact on brand image.

Table 1- Comparative Summary Of Impact Areas Of After Sales Service After Review By Boards Of Directors

Impact Areas of After Sales Service	LG	Godrej	Videocon	Whirlpool	Samsung	IFB
Infrastructure of service location enhanced	Yes	No	Yes	Yes	Yes	Yes
Guidelines Provided to service revenues	Yes	Yes	Yes	Yes	Yes	Yes
New technology or system built to raise service request	Yes	No	No	Yes	Yes	Yes
Value Engineering	Yes	Yes	Yes	Yes	Yes	Yes
Customer relationship management	Yes	Yes	No	Yes	No	Yes

From the above Table 1 it was observed that whereas review by respective company Board of Directors was an ongoing standard process by all companies in their bid to be customer focused the following exceptions are noticed:

- Godrej after sales service department are empowered to decide on infrastructural needs of service locations.
- Both Godrej and Videocon have standard systems for handling service operations.
- Surprisingly in case of Samsung and Videocon customer relationship management decisions are not done with nod from Board of Directors.

Table 2 - Comparative Summaries Of Value Engineering By After Sales Service

Value Engineering Areas	LG	Godrej	Videocon	Whirlpool	Samsung	IFB
New Product Development	Yes	Yes	Yes	Yes	Yes	Yes
Up gradation of existing product line	Yes	Yes	Yes	No	Yes	Yes
Products Discontinued	Yes	Yes	No	Yes	Yes	Yes
Manufacturing Lead time reduced	Yes	Yes	Yes	Yes	Yes	Yes

From Table 2 it was observed that all companies feel that after sales service does help in value engineering but only Whirlpool believe that manufacturing was solely responsible for “upgradation of existing product line”. Some of the companies indicated that they would be launching solutions with other complementary industry players to ensure that housewives can management conveniences more conveniently. Solutions would include managing items to be stored in refrigerator with connectivity to grocery vendor; managing use of washing machine and so on. This means that after sales service has to work proactively th connectivity to grocery vendor; managing use of washing machine and so on. This means that after sales service has to work proactively to ensure products are in working condition 24 x 7 basis.

Table 3- Comparative Summaries Of Information On Amc Policies

Types of AMC Policy	LG	Godrej	Videocon	Whirlpool	Samsung	IFB
AMC within 1 month of product purchase	Yes	No	Yes	Yes	Yes	Yes
AMC within 1 year of product purchase	Yes	Yes	Yes	Yes	Yes	Yes
AMC within warranty period	Yes	No	Yes	Yes	Yes	Yes
2 years AMC	Yes	Yes	Yes	Yes	Yes	Provided only technician visit is charged
3 years AMC	Yes	Yes	Yes	Yes	Yes	Provided only technician visit is charged

From Table 3 it was observed that there was no trend in how annual maintenance contracts (AMC) was being offered. LG executives mentioned that customer was strongly recommended to opt for AMC at time of purchase like an insurance policy. This helped LG to keep a check on proper usage of product and avoid misuse and improves brand image and position. However it was also observed that a customer is unable to differentiate between product warranty and AMC, so leading brands provide comprehensive services for 3 to 5 years and ensure high quality of after sales services. Few manufacturers indicated that a move is on to embrace servitization to high net worth customers.

Table 4- Comparative Summaries of Impact on Brand Image Etc.

Brands	Impact on Brand Image	AMC	Recommending Brand
LG	Consumer rely on Brand based on After Sales Service	Repeat Business	Brand is recommended based on After Sales Service
Godrej	Strong confidence as known for service	Repeat Business	Always recommended due to service
Videocon	Believe that they are the only who provide highest warranty period	Repeat Business also customers opt for other Videocon products	Customers go for full range of Videocon products
Whirlpool	Service is key for success for Whirlpool	Repeat Business	Yes new customer acquisition based on recommendation from existing customer
IFB	No mention	No mention	Belief that once IFB customer always IFB customer.

The observations in Table 4 clearly show that LG, Godrej, Whirlpool and Videocon are very conscious about how after sales service can impact brand image, continuance of AMC, recommending brand.

V. Conclusion

The study contributes to research in the domains of after-sales services, customer experience and customer satisfaction in the VUCA world. Customers are looking for integrated solutions that could handle VUCA and insulate them from its effects. Even the companies are trying to find their way in the VUCA world. A truly customer focused company could deliver holistic solutions will position itself to be the best customer experience and would benefit from loyalty of customers and be a market leader. The purpose of this study was to highlight the findings which emerged on account of the interviews that were carried out at the employers of white goods manufactures operating in the VUCA world. The contribution of this research is twofold. First, it discusses how globally leading manufacturers have gone beyond management of after sales services, and recognize that products need to be integrated with suitable services so as to ensure the sustainability of their company. Integrated products and services can generate increased revenues and achieve customer satisfaction. During new product and service development, special steps need to be taken to consider how to create the value they obtain from products and services.

With growing uncertainty it's important to accept this reality and strive towards more pragmatic actions rather than idealistic thinking. Secondly, the qualitative research done with consumers and manufacturers/ service providers, shows the current status of after sales service in India. It suggests that there is need of increased focus on after sales services at the time of new product development and services through value engineering. This could serve as a stepping stone towards building integrated products and services as internet technology at consumer end is becoming more pervasive and user managed. In parallel to the concept of servitization, this study suggests that there is compelling pressure on manufacturers to embrace service orientation and customer experience management would help them in addressing address volatility, uncertainty, complexity and ambiguity in market place. This would render in the development of better services, with the aim to satisfy customers' needs, achieve competitive advantages and enhance firm performance.

Bibliography

- [1]. Ahamed, Z., Kamoshida, A., & Inohara, T. (2013). Organizational Factors to the Effectiveness of Implementing Servitization Strategy. *Journal of Service Science and Management*, 6(2), 177.
 - [2]. Asugman, G., Johnson, J. L., and McCullough, J. (1997). The Role of After-Sales Service in International Marketing. *Journal of International Marketing*, 11-28.
 - [3]. Baines, T., Lightfoot, H., Peppard, J., Johnson, M., Tiwari, A., Shehab, E., and Swink, M. (2009). Towards an Operations Strategy for Product-Centric Servitization- *International Journal of Operations and Production Management*, 29(5), 494-519.
 - [4]. Bryman, A. (2004), *Social Research Methods* (2nd edition), Oxford: Oxford University Press
 - [5]. Ghodeswar, B. M. (2008). Building brand identity in competitive markets: a conceptual model. *Journal of Product & Brand Management*, 17(1), 4-12.
 - [6]. Guba, E. G., & Lincoln, Y. S. (1994), Competing paradigms in qualitative research, *Handbook of qualitative research*, 2(163-194), 105.
 - [7]. Heskett, J. L., Sasser, W. E., and Schlesinger, L. A. (1997). *The Service Profit Chain*. New York.
 - [8]. Irimi D. Rigopoulou, Ioannis E. Chaniotakis, Constantine Lymperopoulos and George I. Siomkos (2008). After-Sales Service Quality As an Antecedent of Customer Satisfaction. The Case of Electronic Appliances- *Managing Service Quality*, Vol. 18, No. 5, pp512-527.
 - [9]. Loomba, A. P. (1996). Linkages between product distribution and service support functions. *International Journal of Physical Distribution & Logistics Management*, 26(4), 4-22.
 - [10]. Mancesti Marco (2015). Is Vuca the end of Strategy and Leadership?-IMD, Switzerland- http://www.imd.org/research/challenges/upload/TC021-15_VUCA-Mancesti.pdf.
 - [11]. Mont, Oksana (2001). Introducing and Developing a Product-Service System (PSS). Concept in Sweden. *Lund University Publications website*-<http://lup.lub.lu.se/search/record/525784>. or The International Institute for Industrial Environmental Economics website: [http://www.iiee.lu.se/Publication.nsf/\\$webAll/71B8996A95A245B1C1256BE9003C2F62/\\$FILE/NUTEK.PDF](http://www.iiee.lu.se/Publication.nsf/$webAll/71B8996A95A245B1C1256BE9003C2F62/$FILE/NUTEK.PDF).
 - [12]. May, T. (1997), *Social Research – Issues, Methods & Process*. (2nd Ed.), Buckingham: Open University Press.
 - [13]. Neely, A., Benedettini, O., and Visnjic, I. (2011). The Servitization of Manufacturing: Further Evidence. *18th European Operations Management Association Conference, Cambridge, July*, pp. 3-6.
 - [14]. Panizzolo, R. (2008). A Methodology to Measure the Value of Services Provided to Customers in Manufacturing Firms. *Measuring Business Excellence*, 12(3), pp3-15.
 - [15]. Patton, M. Q. (2005). *Qualitative research*. John Wiley & Sons, Ltd.
 - [16]. Raja, J. Z., Bourne, D., Goffin, K., Çakkol, M., & Martinez, V. (2013). Achieving customer satisfaction through integrated products and services: An exploratory study. *Journal of Product Innovation Management*, 30(6), 1128-1144.
 - [17]. Ron Ambrosio and Tom Ether (2001). Transforming the appliance industry - Switching on revenue streams in services- IBM Global Services
 - [18]. Saccani, N., Songini, L and Gaiardelli, P (2006). The Role and Performance Measurement of After-Sales in the Durable Industries- An Empirical Study. *International Journal of Productivity And Performance Management*; Vol 55, No 3/4, pp 259-283.
 - [19]. Sarantakos, S. 1998, *Social Research*, Second edition, Macmillan Education, South Yarnl, Victoria.
 - [20]. Schoemaker Paul J.H. (2015). Strategic approaches to Managing Uncertainty. Wharton USA- http://opim.wharton.upenn.edu/risk/conference/pprs/Schoemaker_Strategic-Approaches-to-Managing-Uncertainty.pdf.
 - [21]. Tore Markeset, T., and Kumar, U. (2003) Design and Development of Product Support and Maintenance Concepts for Industrial Systems. *Journal of Quality in Maintenance Engineering*, 9(4), pp376-392.
 - [22]. Taylor, S. J., Bogdan, R., & DeVault, M. (2015), *Introduction to qualitative research methods: A guidebook and resource*, John Wiley & Sons.
 - [23]. Vandermerwe, S., and Rada, J. (1988). Servitization of Business: Adding Value by Adding Services. *European Management Journal*, 6(4), pp314-324.
 - [24]. Yoon, J. S., Kwon, H. J., Kim, B. H., & Lee, J. Y. (2015). Development of a Service Platform for Servitization of Manufacturing-related Activities to Use 3D CAD Data. *Procedia CIRP*, 30, 90-95.
- *****