Chapter 4

Six Sigma Marketing Components Identification

4.1 Components for successful implementation of Six Sigma

Though Six Sigma has its success story with different companies like Motorola, GE, American Express, Boeing, Caterpillar, Fidelity Investments, Honeywell International, JPMorgan Chase, Johnson and Johnson, still many companies failed miserably to achieve desired results out of implementation. Early adopters of, Kodak, Xerox Corp and Polaroid Corp have experienced significant business reversals recently (Hammer, 2002). As Moosa and Sajid (2010) mentioned "*The success and failure of programmes largely depend upon their implementation*", it is important to inspect components contributing to the successful Six Sigma deployment in the organization. These components entrenched as "key ingredients" for successful implementation of quality initiative is discussed by many authors (Hahn et al. (1999), Coronado and Antony (2002), Henderson and Evans (2000), Antony and Banuelas (2002)). The role of top management, process based approach, and project selection are some of the ingredients of a successful Six Sigma implementation. Below we discuss these concepts in detail from marketing point of view.

4.1.1 Role of top management

This component gains its importance invariably in majority of Six Sigma literature (Chakrabarty and Chuan Tan, 2007). Importance of top management involvement in quality initiative is well realized from its predecessor Total Quality Management (TQM) approach. However, Beer (2006) report decline in TQM recognition due to failure in its proper implementation. Some barriers with respect to top management involvement in quality initiative are: Management's inability to identify gap between their TQM rhetoric and actual implementation, unclear strategy and conflicting priorities, stringent top-to-down leadership style, ineffective top management team, poor coordination, inadequate down the line leadership and close vertical communications.

The top management plays important role in designing quality based culture, as they are the custodian of quality movement in the organization. Following dimensions are vital for Six Sigma implementation with reference to top management:

- *Selection of project*: Selection of proper project is important to make connection between organization's quality improvement efforts and financial benefit to the organization (Reidenbach, 2009). Since top management is in the best position to bridge this gap of quality efforts and financial accountability, role of top management in project selection is significant in order to identify "what to improve" and "how to improve" etc. In addition to that top management plays vital role in identifying parameter of improvement, specifying desired quality outcome based on ever changing requirements of customers and proposing dead line for the selected project by providing blue print of project plan (Ray and Das, 2010).

- *Bringing cultural change*: Adopting Six Sigma as a long term management philosophy instead of merely as a tool to make quick fixes is the major aspect best addressed through top management (Hensley and Dobie, 2005). Long term efforts of senior management with clear vision which should be communicated at each level of organization and management by facts are the requirements of any project to be successful. Top management plays important role in effective management of Human Resource for successful deployment of Six Sigma in the organization. Adequate training should be given to the people who are becoming part of Six Sigma project. Training is required to understand fundamental Six Sigma tactics in the company. Training empowers employees to work in multifunctional team, make them capable to perform multifunctional task and understand new process and enhance their understanding about techniques and tools (Škrinjar et al., 2010). According to Best and Neuhauser (2005) an organizational system gets its result not because of the individual working in the system, but also because of the top management's involvement in it. Since workforce has least control over the condition that affects their performance, it is the responsibility of top management to redesign the system in order to improve quality, job satisfaction and reduce waste (Schultz, 2014).

- *Resource allocation*: Effective management of organizational resources is required for successful Six Sigma deployment (Raisinghani et al., 2005). Top management plays key role in effective management of different resource like time, money, human resource etc., for successful implementation of Six Sigma. Timely competition of Six Sigma project is required to realize optimum benefit of project. It is important to finish Six Sigma project within specific time limit to keep team efforts alive. Top management as a resource allocator contribute to decide about starting and ending

point of Six Sigma project. Timely completion of intermediate project steps can also be reviewed through top management. Implementation of Six Sigma can be leverage through investing in project that gives high Return on Investment (ROI). It comes under top management sovereignty to select such a Six Sigma project that gives optimum financial return.

Effective management of human resource is important part of successful Six Sigma implementation. Top management contribute significantly through effective team building by designating appropriate position to finest performer. Identifying people's core competencies and assigning task accordingly is paramount to successful Six Sigma implementation. In order to promote desired skills and behaviour in a company, Six Sigma focused organizations needs to design performance based reward system in place of designation based reward system. (Antony and Banuelas, 2002).

4.1.2 Process Based Approach

Process based approach to the organizational activities is one of the key edges of Six Sigma implementation. Six Sigma provides scope for improvement by promoting process based organizational activities. Process based approach is capable of linking customer value to core organizational processes and hence provides competitive advantage to the organization.

Process based approach is recommended by many authors in order to improve business performance (Deming (2008), Davenport and Short (1990); Porter (1985), Byrne (1993), Hammer (1990), Kaizen (1986), Drucker (1989), Rummler and Brache (1995), Melan (1985)). As mentioned by McCormack and Johnson (2001) *"managing a business means managing its process",* and therefore at most importance should be given to their organized processes. As Hammer (2002) mentioned, organization success depends on the effective performance of well- designed processes. According to Škrinjar et al. (2010) process oriented companies perform better than less process oriented companies.

Process based approach was originally preferred over functional approach in order to overcome departmental silos of functional approach. Adam Smith's functional approach was based on breaking work into simple tasks and practice by organizations for almost 200 years (McCormack and Johnson, 2001). Functional approach is characterized by tight control over

the flow of information, functionally centred and hierarchical organizational structure to coordinate and manages activities. Information and workflow of this approach navigates from one function to the another function, which creates issues due to lack of coordination between functions.

Major lacunas of function based approach reported in literature are:

- No function has control over whole process, hence no one knows how much it costs and how long it takes to fulfil customer request (Hernaus, 2011). Few functions even try to improve over the cost of other functions.
- Parted departmental activities cannot have whole process view, since one department is unaware about activities and objectives of another department. This results into increased non-value-added, underutilized resources and imprecise work flow. Lack of end-to-end process flow leads scepticism among employees regarding contribution of their activities as a whole.
- This approach misses the opportunity to improvement at the point where workflow passed from one function to another (McCormack and Johnson, 2001).
- Functional approach in which flow of information is from down-to-up towards senior management who evaluate data, make decision and deploy policy downward which results in to sub optimized organizational performance (DeToro and McCabe, 1997).

On the other hand process based approach evolve from the need of optimum utilization of available resources and continuous improvement called KAIZEN. Subsequently this process based approach advanced as different methods like Business Process Management (BPM), Business Process Operations (BPO), and Business Process Reengineering (BPR) etc. Though this process based approach is not new, more inclination towards this approach is found due to different quality movements like Total Quality Management (TQM), Lean thinking, Six Sigma (Hernaus, 2011) etc.

As Hammer (2002) defined "*process management is a structured approach to performance improvement that centres on the disciplined design and careful execution of a company's end-to-end business process*".

Process based approach provides opportunity to meet customer needs by looking from start to end activities and hence removing non value added activities from the flow and optimizing

different phases of process by measurements. Broken functional silos results in integrated business processes, reduced inter functional conflict and connected inter departmental flow (Škrinjar et al., 2007). Process owner in place of departmental head is in charge of performance of process, hence can have holistic view of whole process and can better align process to the customer need (DeToro and McCabe, 1997). In end-to-end process approach employees have holistic view of contribution of their activity to the customer centric process and hence can work consistently (Hammer, 2002). Continuous flow of work recommended by process approach leads to optimum use of time and resources resulting in reducing cycle time. Process based approach maintains association between customer value and organizational processes and hence play strategic role in value creation (Škrinjar et al. (2010), McCormack and Johnson (2001)). This end- to-end approach enables organizations to deliver greater value to customers in a way that generates higher profits for shareholder and eventually improving cost, quality, speed, profitability and other key areas by focusing on measuring, and redesigning their processes (Hammer, 2007). Difference between functional approach and process based approach is shown in Table 4.1.2.

Škrinjar et al. (2010) extracted following aspects of process based approach:

- Business processes have a strategic role in value creation
- Processes should be continuously improved
- Empowered inter-functional teams are the basic unit where work is performed
- Organization has a strong customer focus
- Process owners are defined and have the responsibility for the success of the processes
- Organizational structure is in line with the core process
- Process performance is measured and monitored.

Proper execution of process based approach depends upon certain parameters. Hammer (2007) called them five *enablers* which are given as,

1. Well defined process to understand job role clearly,
2. People involved must be trained enough (performers),
3. Nominating authority is responsible for streamlining process (process owner),

4. Development of supportive infrastructure based on information system and HR (infrastructure),

5. Using appropriate metrics for evaluation of the process (measurement).

These enablers are mutually dependent and absence of any one from these can make process based approach less effective. Managing business process effectively over organization is a key to triumphant.

Identification and prioritizing process, mapping process and measuring process are the different dimensions of process management. These three dimensions are discussed below in detail.

Table 4.1.2. *Difference between function based and process based approach*

Dimension	Function based approach	Process based approach
Organizational hierarchy	Based on authority	Based on expertise in task
Role of top management	Set priorities, give orders, control and inspect work	Resource allocation, providing expert view and future direction
Authority responsible for meeting customer needs	Top management	Cross functional teams
Organizational management	Chain of command from top-to-down	Self managed cross functional teams
Role of manager	Supervisory	Participative
Unit of work	Isolated Departments	Cross functional teams
Flow of information	Down-to-top	Across functions
Flow of work	Departmental task	End-to-end across departmental boundaries
Work goal	Localized functional goal	Global customer focus goal
Work Efficiency	Narrow based on departmental efficiency	Measuring and managing process level results
Work focus	Managing functional departments	Holistic customer oriented, end-to-end approach
Work force job role	Not clear about their contribution in output as a whole	Clear about hoe their performance contributing to the output for end users
Performance evaluation	Activity based	Result based

4.1.2.1 Identification and prioritizing processes

Davenport and Short (1990) proposed "exhaustive" and "high-impact" approaches to identify key processes. Exhaustive approach proposed identification of all organizational processes and then prioritizing them in order of urgency. Identifying linkages between processes is also important when output of one process becomes input for the other. In "high-impact" approach identifying only important processes tightly matching with business vision. The high impact or core processes are considered as important to achieve organizational goals, objectives and are critical to customer satisfaction. Such processes generally includes new product development, order fulfilment, customer service and other customer oriented services that produce revenue (DeToro and McCabe, 1997). They have mentioned three types of processes: operational, supporting and management. Further they identified high impact customer focused activities like order fulfilment and customer service as operational services. Whereas processes important to achieve business objectives like human resource service, financial service etc., are called supporting services. Launching, reviewing, funding, assessing whole system of process management lie under management processes. Final selection of process from major candidates is based on organization future planning, goals and resource allocation. Operational processes are internal where as supporting and management processes are external. Identification of key process is the issue best addressed in Define phase of DMAIC philosophy.

4.1.2.2 Process Mapping

Process mapping is the technique used to examine interrelation and sequencing of processes. It is a visual display of the flow of process showing relationship between activities, data, and objects involved in the production of output (Biazzo, 2002). Process mapping helps providing visible workflow, improve communication, providing common frame of reference to all involved in process, and provides path ways to customer satisfaction by indicating functions, input, process and output that organization uses to provide value to the customer (Damelio, 2011). High level process map called SIPOC is generated to decide upon boundary of the process and to examine start-to-end process (Munro et al., 2009).

Damelio (2011) explained process mapping based on different level of performance as below:

- *Organizational level mapping*: Understanding supplier-customer relationship between different organizational parts is the major task of this level. "Relationship map" can be used to depict organizational mapping.

- *Process level mapping*: Examining process flow over different functions along with resources available is key task at this level. "Cross-functional process map" or "swim lane diagram" is used for process level mapping.

- *Job level mapping*: Differentiating between value added and non value added activities is the task of this level, which can be understood through "flow chart".

4.1.2.3 Process Measurement

Measurements in process based approach are useful to manage effectiveness and efficiency of processes. Measurements of effectiveness give insight in to ability of the process to meet customer needs. Directly linking process performance measures with customer needs is one of the most powerful aspects of process management approach (Hooper, 2001). Hence, we can say measurements here required are for making process valid to the customer needs. Customer satisfaction score, customer loyalty measurement, repeat purchase intentions etc. are example of process effectiveness measurements.

Efficiency of the process is based on relativity of resources used versus results achieved. Measurements here required examining reliability of process. Reliability can be best addressed through variation and hence measurement of variation is important here. As Snee (1990) mentioned employment of statistical thinking and measurements is based on the following three principles

- All process occurs in a system of interconnected process.
- Variation exists in all processes.
- Understanding and analyzing variation are key to success.

Control charts, Rolled throughput yield (RTY), process capability indices, DPMO are example of efficiency measurements. Although, the efficiency of a process depends on many of the above mentioned process components, it is essential to establish a good communication between VOB and VOC. Such a communication enables marketing people to orient the process capability (sigma level per se) to the sales components. Figure 4.1.1 shows such a

process which results in identifying the variation inherent in the process and the necessary inputs needed to meet the customer requirements. The overall assessment about the process performance becomes a by product of this situation. Therefore, to enhance the efficiency of the marketing process, the Six Sigma quality professionals and marketing professionals should mutually identify the core areas of expertise, which works best for the betterment of the organizational growth.
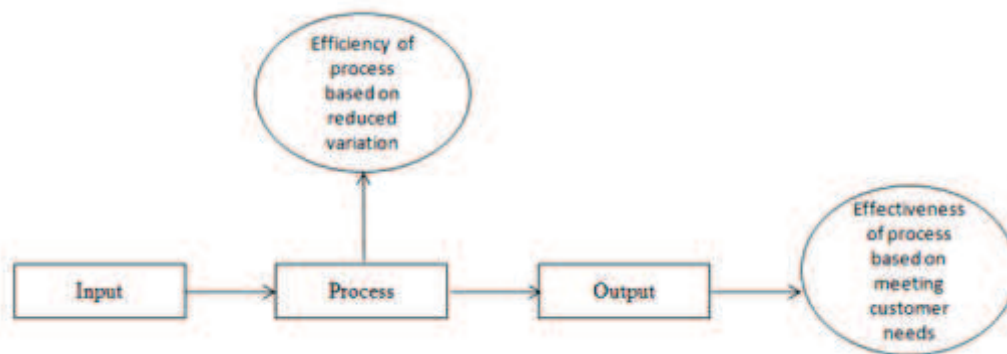

Fig 4.1.1. *Effectiveness and efficiency measurements of marketing process*

4.1.3 Expert team

Quality programme implementation issues like lack of communication between bottom line and top management, companywide aligned efforts can be best addressed through expert team, responsible for implementing companywide quality initiative making everyone part of it. This leads to delegation of authority to cross functional team and shifting power from positional authority to knowledge based authority (Beer, 2006). Expert team sharing responsibility with top management plays key role for analyzing organizational goals, critical business issues, competitive moves, environmental factors, senior management direction (DeToro and McCabe, 1997) etc. Communicating the strong linkage of objectives to the lower levels of management and throughout the organization, as well as establishing a robust performance monitoring and review mechanism, will ensure active participation at all level of Six Sigma (Lynch et al., 2003).

Drucker (1989) proposed knowledge based business model way back in 1998. According to this model, in place of traditional functional departments organization is run by team of specialist, equipped with knowledge called "task force". Such teams are responsible for synchronizing activities across functional boundaries and end with the customer. These cross

functional team carrying clear vision of organization can proliferate it at each level to keep efforts aligned. Less reliance on managerial authority, formal rules and procedures, narrow division of work and slanting towards creating teams, sharing information and delegating responsibility and accountability far down the hierarchy are the characteristics of the organizations implementing process based approach.

Six Sigma follow specialized hierarchy of expertise to support its introduction and development at different organizational level. Process owner, Master Black Belt, Black Belt, Green Belt and Group Members are the part of SSM expert team. Each member of Six Sigma team is allotted task at their level of expertise. Best match between expertise and relative task make team efforts effective at each level of SSM project implementation.

4.1.4 Effective Management of Human Resource

Human resource is the chief success factor of Six Sigma implementation (Antony and Banuelas (2002), Hammer (2007), Henderson and Evans (2000); Lynch et al. (2003)). Managing human resources effectively from Six Sigma perspective includes training, assigning and rewarding.

Adequate training should be imparted to potential people who are becoming part of Six Sigma project. Training is required to understand fundamental Six Sigma tactics in company. As explained above, Six Sigma pursues belt system. To harmonize project based efforts, training is essential. Training empowers employees to work in multifunctional team, make them capable to perform multifunctional task and understand new process techniques. Assigning task to the candidate with best potential can leverage Six Sigma team work. Identifying people's core competencies and assigning task accordingly is paramount to successful   implementation. This is very essential for marketing area as well. Six Sigma focused organizations needs to design performance based reward system in place of designation based. This system helps to promote desired skills and flexible behaviour in company (Antony and Banuelas, 2002).

4.2 Components critical to marketing

To examine component for effective marketing function, it is important to understand how marketing as a field has changed over a period of time. This helps to examine underlying continuity along with changing agents contributing to the marketing as a field. It also helps us to better understand the current scenario of marketing field. Growth and change in marketing can be examined through external and internal factors, where

- *Internal factors* are those factors organizations have direct control over. These are in house factors that are affecting marketing function like management style, organization's financial capability, technological advancement, research and development.
- *External factors* are those factors organizations doesn't have direct control over. These factors include customer requirements, competitors, and economic, social, cultural, legal changes.

The goal of marketing function is to reach potential customer to satisfy their needs in the profitable way. To meet this goal and to adjust with external factors an organization need to use internal resources in optimum way (Ifezue, 2005). Amalgamation of these internal and external factors is leading change in organization structure and so in marketing. As shown in Figure 4.2.1, the changing scenario of economic conditions, organizational structure, customer requirements, spread of information technology are the change agents responsible for creating a vibrant marketing scenario. SSM is definitely a new step in this direction. These components are further detailed in the subsequent section.
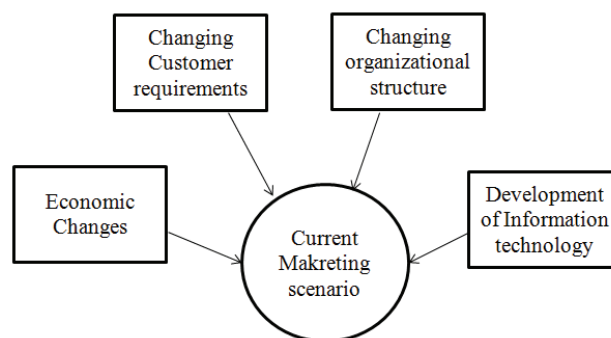

Fig 4.2.1. *Contributing factors of current marketing scenario*

4.2.1 Changing economic condition

Changing economic condition in last few decades can be best explained through one phenomenon called globalization. Globalization has changed market environment as never before. Globalization is the market activity characterized through increasing interdependency between economies of the world, multinational nature of trade and investments and higher frequency of cross border transactions (Cavusgil, 1993). Impact of globalization is so fierce that it is affecting every business in each corner of the world. Gone are the days when organizations solely focusing upon domestic market. Organizations are spreading their business to different parts of the world to achieve maximum economic advantage. Organizations from all around world are participating in international trade, as oppose to limited players dominated in international trade. This scenario resulted into steep market competition and hence changing organizational structure completely. We strongly feel that SSM has lot of scope for improving the organizational goal in this current environment.

Following are the armaments of organizations wishing to venture into global market:

- Expansion of business irrespective of geographical distance of their target market.
- Understanding requirements of local markets, even though expanding globally.
- Establishing strong channel communication with customers to understand their need closely.
- Developing efficient supply-chain to propose competitive price against local players.

Under such situation companies' marketing efforts require different types of competencies. "Go global but stay local" is the strategy organizations required to follow in order to stand against local competition. Marketing in such situation has to be effective enough irrespective of geographical, economical or cultural differences. Local customers are generally habituated to purchase from local players. Major responsibility of marketing efforts in such scenario is to inculcate feeling of trust among prospective customers for their offerings. This feeling of trust followed by close communication, value delivery and pleasurable customer experience are the ingredient of successful marketing programme for global organizations. Since globalization smudges the difference between domestic and international players, domestic players also required to identify their unique value proposition followed by similar chain of marketing efforts of close communication and pleasurable customer experience to survive in

the competitive market. Marketing sigma level is one of the best practice to build confidence in the clients when there is stiff competition between the local and global businesses.

4.2.2 Increased level of customer sophistication

Customer focus is the bare important characteristic of marketing. Marketing being responsible for revenue growth, required to be attentive towards changing need of customers. As mentioned by Muralidharan (2015) customer focus should be considered as major *leading indicator* for marketing to achieve success. Author defined leading indicator as "the indicator that precedes the occurrence of something". Since customer focus is the prerequisite to achieve customer loyalty which pave to increased revenue, lower acquisition cost, lower retention cost and increased profitability are considered as major leading indicator for marketing. Customer focus has changed immensely in last few decades. Compared to traditional promotion based-profit making marketing to recent relationship based-customer focused marketing, marketing has advanced more than anything with reference to customer focus. Changing customer focus with reference to different organizational dimensions is mentioned in Table 4.2.1.

One of the reason for this amplified customer orientation is the shift towards service focused paradigm from product focused paradigm. Traditionally during product focused paradigm the centre of competition was based on advanced product features. High competition between producers due to competitive array of products resulted in to winning battle ground based on embedded services with product. Hence market winning criteria are shifted from product focused to service focused. Marketing strategies during product focused paradigm were merely based on understanding what features customers expect in end product. This service paradigm requires altogether a different marketing strategy.

Marketing issues with product paradigm and service paradigm are well documented through "Marketing Myopia" and "Service Marketing Myopia". Superficial customer-firm link is well documented by Levitt (1960). Levitt (1960) first coined the term "Marketing Myopia" to indicate limitation of product focused marketing. By this term he exonerates the traditional market situation where managers solely focus upon what they have to offer to the market, irrespective of market requirements. Initial phase of service marketing is described as "Service Marketing Myopia" by Gummesson (1994b). By "Service Marketing Myopia" Gummesson (1994b) exemplified changing focus to understand customer requirement

without understanding what firm can offer. None of the marketing scenario described above focusing upon creating communication channel between customer and firm and thereby keeping close eye on customer requirements. Gradually service marketing change its track towards maintaining close relationship with customers and educating them. This new form of marketing is very well known as "Relationship Marketing" in marketing literature. Through this intense customer connection, marketing as a customer focused function is getting advantage to better understand what customer need and what they value in offering. Instead of having superficial marketing research recent marketing practices focus upon genuine insights into customers' world. Deep dives into customers' world empower marketing to manage critical balance between what customer want, what the firm can offer and how to manage this relationship profitably.

Table 4.2.1 *Different dimensions of traditional and contemporary marketing scenario*

Dimension	Traditional	Contemporary
Business goal	Profit is prime business focus	Profit is the outcome of customer delight
Customer orientation	Customer satisfaction is the locus of control of marketing efforts	Total customer experience is the locus of control of marketing efforts
Marketing approach	Focus on promoting offering's features	Focus on understanding importance of offering in customer's life cycle
Marketing tactics	Based on physical aspects of offerings like quality, quantity, functionality, availability, price, information, delivery	Based on educating and understanding customers and thereby creating customer value

Traditional markets were characterized by restricted competitions, rigid price bands, limited choice to customer, market monopoly etc. have changed drastically due to globalization. In pre globalization market customers had limited options available in the market with offered price. Hence satisfied customers were more likely to be loyal customers due to limited choices available in the market. Globalization has changed this scenario completely. Intense market competition has proposed array of products with competitive prices to the customers. Since customers are having more options to purchase from competitive market, they churn easily from one offering to another. Under such condition little room for customer

dissatisfaction can lead to loss of customer. Hence, satisfied customers need not necessarily be loyal customers under such situations (Jones and Sasser, 1995).

Initial marketing models focused upon customer satisfaction as preliminary quality assessment criteria for offerings (Parasuraman et al., 1985). Going beyond merely customer satisfaction is the need of time. When market is over flooded with variety of offerings with competitive price and remarkable quality, organizations need to identify new way of customer orientation. Targeting customers merely based on physical aspects of offering is not enough, since there are many providers in market. Instead of bombarding customers with advanced features of offering, focus is now shifted to understand what customer value in offering. Instead of making selling as a major objective, new marketing efforts focus upon creating valued position of offering in the life of customer. Understanding what customers "value" becomes critical for the companies to survive in the market. Sigma level of the marketing processes could one of the important parameter of value proposition here.

Conceptualization of value is based on benefits customers are getting against price they are paying for offering (Lanning and Michaels, 1988). As mention by Almquist et al. (2016), organizations can compete in the market based on value proposition. Companies proposing value on multiple elements and selecting value elements strategically can outperform competitors. Managing customer value at each stage of product/service life cycle requires great deals of efforts. This resulted in to more realistic organizational policy. Unlike "Marketing Myopia" and "Service Marketing Myopia" organizations now a day are very much clear about their can and cant's. Managing customer value on such realistic grounds is required to create pleasurable customer experience. This chain of value proposition-value delivery-total customer experience is depicted in Figure 4.2.2. The whole cycle of customer touch points here can be seen with reference to following points:

- Customer acquisition based on value proposition
- Customer retention based on value co creation
- Customer loyalty based on Total Customer Experience

Conducting superficial customer satisfaction survey is no longer useful, since little defects during product/service usage cycle results in to customer dissatisfaction and hence lose of existing customer. Since customer acquisition is much more costly affair compare to

retaining existing customers, it is important to device ways to maintain customer loyalty. This situation can be handled by engaging customers in value added customer-firm dialogue. This value added engagement can create emotional bonding between customer and offering. An organization having high level of sigma can boost the morale of customer and retain their loyalty for a long time, provided the company sustains the sigma level throughout their processes.

As discussed above advance physical features of offering, focus on customer value and emotional bonding between customer and offering results in to delighted total customer experience. As explained by Oswald et al. (2006) this delighted "Total Customer Experience" is the way to achieve lasting customer loyalty and hence assuring marketing position.
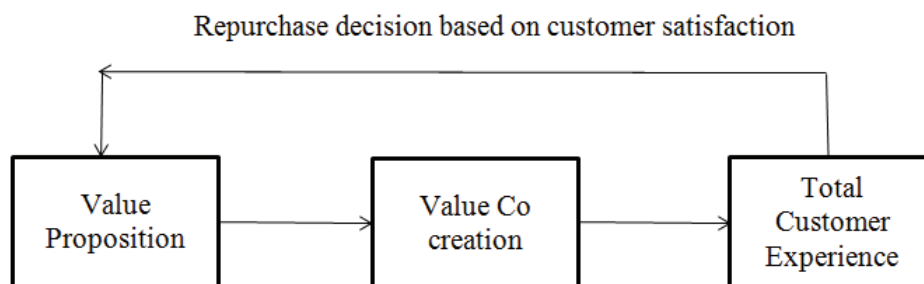

Fig 4.2.2. *Customer touch points based on "value" aspect*

4.2.3 Changing organizational structure

It is important to understand change in organization structure of modern era since it determines how organization operates and perform and consequently how it affects marketing practices. As discussed above in Sec. 4.2.2 rising competition and need of winning customer loyalty scenario necessitates close relationship with customers. Hence, prime need of organizational set up is to be responsive and flexible to customer requirements. Old organizational structure based on specialization, functional separation, standardization and hierarchical control makes it inflexible and unresponsive to ever changing marketing need. New organizational structure is based on flexibility, innovation and responsiveness as their core criteria. Existence of such modern organization is based on their core product or service offering and hence called *cellular* organization. In this new form of organizational set up,

- functional separation is replaced by blur functional boundaries,
- work specialization is replaced by work integration,
- standardization is replaced by variety.

Strategy, structure and processes of such firms are so changeable and fluid that they can only be described using a truly organic metaphor (Snow, 1997). Difference between traditional hierarchal structure and ever changing modern organizational structure (Gummesson ,1994a) is shown in Figure 4.2.3
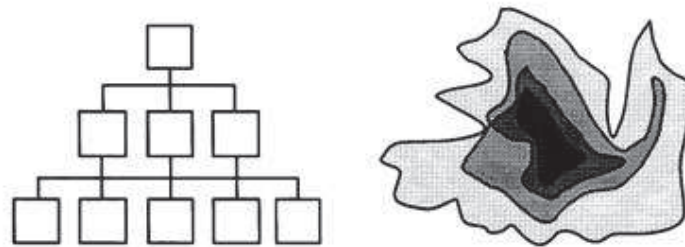
Fig 4.2.3 *Traditional hierarchical and modern flexible organizational structures*

This new form of organizational structure is well known as "Network organization". Network structure of this new age organization signifies group of functionally specialized firms tied together for business relations. Quality of connection between firms is what differentiates network organization from traditional supplier-producer connection. Achrol (1997) in his famous article "*Twenty first century organizations: Implications for a New Marketing Paradigm*" describe characteristics of network set up as non hierarchical structure, with long term committed mutual relationship, multiple roles and responsibilities and affiliation sentiments. Achrol (1997) classify network organizations into four broad types:

1. *Internal market network*: Setup where traditional firm try to minimize hierarchical structure through independent units within the organizational structure. These units are connected through internal network within the organization and they are free to compete in internal or external market.

2. *Vertical network*: Supporting traditional supplier-firm-distributors vertical chain, this vertical network is based on "integrator". Integrator is the focal organization, responsible for monitor and coordinate supplier and distributor firms.

3. *Inter network*: Inter network is based on affiliation of firms belongs to varied industries. Profitable alliance of firms from different industries is based on "interlocking" of shares, so that firms can focus on achieving long term goals in place of short term benefits.

4. *Opportunity network*: Opportunity network is the temporary alliance of firms based on market requirements. Proposing various product or services as per market need this types of firm have flexible assembling and dissembling structure. Strategic alliance of the companies is based on particular project or problem.

Any form of above advanced organizational structure demands intimate integration of customers with organizational activities. Hence, marketing is not merely a function to make firm-customer connection after product is disseminating in the market, but it is becoming integral part of organization existence strategy.

4.2.4 Increased reliance on Information Technology

Far reaching spread of Information Technology is changing business scenario. According to (ITU) (2016) report, around 47% of the world population is using internet by the end of 2016. With major users of internet from developed parts of the world like Europe, America and CIS with contribution of 81% to the whole internet user base. Another cluster joining this IT bandwagon is developing countries from Asia and Pacific with contribution of 40% to the internet user base.

As discussed in previous units survival of the firm in contemporary market is determined by being competitive, focusing on TCE and supporting flexible organizational structure. All of the above components required to establish strong channel of communication between different stakeholders. Companies are looking for unique environments in which,

- They got opportunity to expand their business in different parts of the world and small players can also venture in the competitive market.

- They can keep eyes on their customers and can establish close and constant communication with customers.
- They can have free access to information between different business unit and they can empower themselves with latest market information.

These needs of new business environment are well addressed through World Wide Web. World Wide Web is providing unique platform for business activities. Following characteristics of web base environment propose enriching environment for business activities:

- Unlike traditional one to many communication model this new computer mediated environment facilitates many to many communication model and hence create network of communication.
- Traditional campaigns are designed based on the assumption of homogeneous customer requirements. In this mode of communication customers merely act as passive listener. They don't get any opportunity to interact with firm. This new web base environment allows customers to be proactive on digital platform. Customers can interact with firms, with other customers and can give their feedback on digital platform. Hence, this new platform addresses heterogeneous users who are in search of varied experience. Engaging customers in whole channel of marketing instead of merely understanding their need is the major objective fulfiled by digital platform.
- Traditional campaign starts with media commercials addressing mass of customers where as digital campaign start with customer insights and tries to create a digital customer experience that they admire. Campaigns generally create brand through in store experience, which is now created on digital platform. Hence, organizations need to understand how they can bring in store experience to digital platform.
- Instead of bombarding customers with information, this platform is based on motivation of customers to find particular site or piece of information.

In the case study presented in chapter 7, we study how SSM facilitates digital communication of an India based travelling firm and optimize their value proposition in terms of customer segmentation, customer requirements, customer engagement, TCE etc.

4.2.5 Components contributing to current marketing scenario

Based on the above discussion we can identify components of four major factors contributing to current marketing environment. Economic change in market resulted in to competitive market, changing customer requirements resulted in to need of delighted TCE. Changing organizational structure resulted into network based business model and development in Information Technology leads to integrated communication. All these components together define current marketing scenario as shown in Figure 4.2.4.
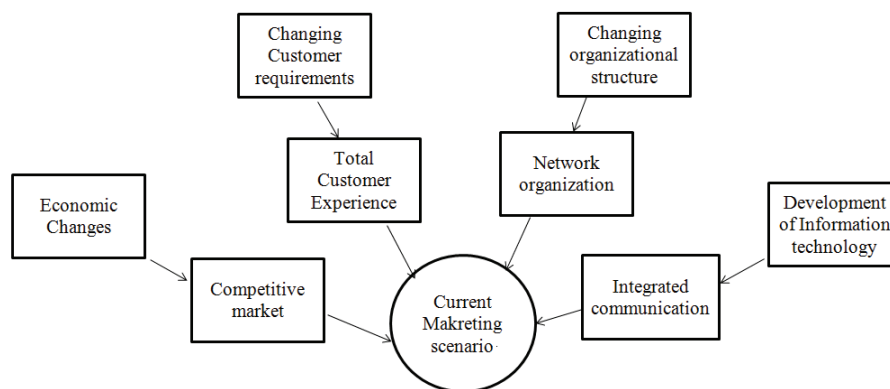

Fig 4.2.4. *Components contributing to current marketing scenario*

SSM can be a powerful tool to leverage functionality of each of above components and making them more effective for building long lasting customer confidence.

4.3 Integration between Six Sigma and Marketing

It is now time to integrate Six Sigma and marketing based on these components. This integration between Six Sigma and marketing paves ways for establishing a good customer confidence with sustainable business practices provided top level commitment is in accordance with the organizational objective. Six Sigma as a process improvement approach is expanding its horizon from data rich manufacturing environment to service environment. On the other hand marketing is carving ways from superficial customer perception

environment to data rich digital environment. Hence, Six Sigma converges towards service environment which is the fundamental nature of marketing and marketing converges towards data rich environment which is the fundamental nature of Six Sigma. This complementary convergence of two fields provides great opportunity for possible integration between Six Sigma and marketing. Converge of these two fields towards new Six Sigma Marketing approach is shown in Figure 4.3.1
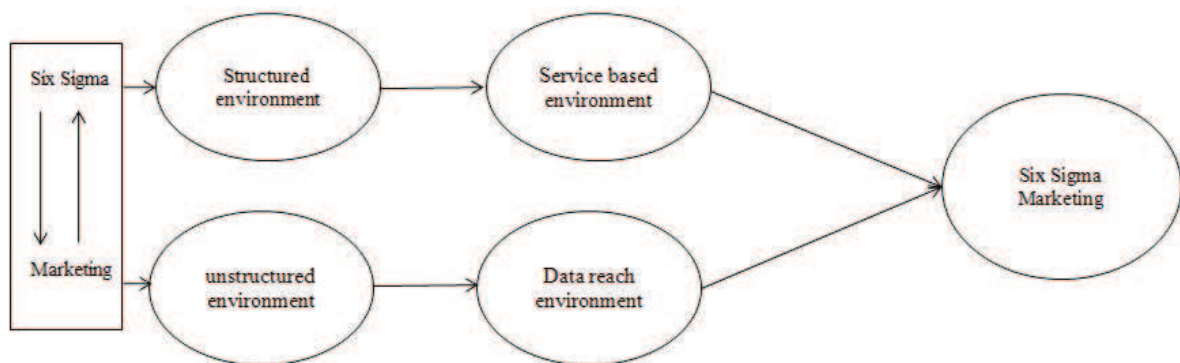

Fig 4.3.1. *Integration basis for Six Sigma and Marketing*

From the figure it is observed that the measurement based information is what makes the bonding between Six Sigma and marketing a successful philosophy. And the philosophy is more of practical than experimental in nature.

4.3.1 Six Sigma moving towards service environment

As discussed in Sec. 4.2, the shifted focus towards service paradigm necessitates remarkable performance from supporting functions like finance, sales, marketing, HR etc. These service functions do not produce physical product but support overall business mission. Pay off of improving quality and productivity of services are high compared to manufacturing due to direct connection between business metrics and quality characteristics of services (Does et al. 2002). Hence it is desirable to examine possible improvement in service functions through sophisticated process improvement programme like Six Sigma. As mentioned by Antony et al. (2007) application of Six Sigma to services can benefit with reference to improved cross functional team work, reduced cost of poor quality, increased consistency of service, reduced

non value added steps, data driven decision making, increased employee satisfaction etc. In spite of evident benefits of applying Six Sigma to services, resistance to the adoptability of this approach to service environment is attributed to the following factors:

- People from service functions or service organization believes that quality improvement approaches originated in manufacturing are not well suited for service environment.
- Many service organizations see Six Sigma as a method involving sophisticated statistical tools which is difficult to understand having little relevance with real world situation.
- Practicing Six Sigma require extensive training and lack of manpower to serve customer resist supervisors to put employees on Six Sigma training.

Services are best characterized through their fire fighting approach. Lack of systematic approach to understand service problems leads to unexpected end results and hence using quick fixes as problem mitigation plan. Not only that decision making in service environment is largely based on personal experience and gut feelings, but lack of data supported decision making approach results into inefficient service delivery and hence living room for customer dissatisfaction. These mentioned issues of service environment can be best addressed through process based data driven management approach- Six Sigma. Six Sigma originated in manufacturing environment and very nature of manufacturing and service environment is different from each other. Hence, it is important to understand on what ground it is possible to propose integration between Six Sigma and service (marketing) environment. First step toward integration between Six Sigma and service environment is through understanding difference between manufacturing and service environment. Table 4.3.1 shows difference between manufacturing and service environment based on different dimensions. As it shows, the service environment needs to be more accountable for all process activities in the organization.

Table 4.3.1. *Difference between manufacturing and service environment*

Dimension	Manufacturing	Services
Process ownership	Clearly defined	Ambiguous / Multiple ownership
Quality goals	Clearly defined	Not considered
Process boundaries	Clearly defined	Not clearly defined
Process stages	Clearly documented	Often does not exist
Process measurements	Well defined	Not clearly defined or not measurable
Measurement nature	Repeated and consistent	Non repeated and unique
Process control points	Well established	Not identified clearly

4.3.2 Integration of Six Sigma and Service processes

Difference between manufacturing and service environment can be tackled through the following aspects in order to integrate it with Six Sigma:

- *Process based approach*: Service people hardly see their work as process based. Adopting process based approach to understand linkage between activities provide great opportunity to improvement. Issues related to process ownership and quality goals can be best addressed through process based approach. One can use flow chart and process diagram to understand process at minute level of task. Identifying phases of process enables the management to have proper measurement for decision making.

- *Understanding nature of process*: In manufacturing setup measurements are repeated and consistent where as in non manufacturing set up measurements are not repeated but unique. This dimension can be addressed through understanding very nature of process. As explained by Biolos (2003) classification of processes based on customized, mass customized and standardized helps to understand possible opportunity to integrate it with Six Sigma. Applying Six Sigma to highly customized process proves to be costly affair where cost of applying Six Sigma exceeds the benefits. Mass-customized processes are good candidate for Six Sigma integration due to high volume of activity and result in significant cost saving. Standardized services can also get best benefit from Six Sigma integration. Based on repetitive and

standardized nature of some services like finance, medical, are using Six Sigma extensively to improve their processes.

- *Defining measurements*: Unlike data rich manufacturing environment, measurements in service environment are not clearly defined. Many service phenomena are qualitative in nature or at most can be measurable through counts. Hence, operationalization of process measurement is important in service environment. Validity of measurement is also important part of Six Sigma integration with service environment. Defining defects based on these valid measurements is one of the most important part of Six Sigma. Due to lack of hard specification limits in service processes, performance of services can be examined through control limits targeted at zero defects. Influential factors in non manufacturing environment is not structured like machines, operators etc. Negative effect of open influential factors can be minimized through active intervention like taking regular customer feedback or interviewing customers regularly.

4.3.3 Data Rich Contemporary Marketing Environment

As discussed in the previous section, components contributing to current marketing environment are competitive market condition, focus on total customer experience, network base organization and integrated communication. Achieving competitive advantage based on each of this component require sound decision making based on real time data.

Doing sound market research to know strength and weaknesses of competitors is key to successful market positioning. Understanding competitors is becoming easier now a day due to changing need of transparent business environment. Players in the market are now openly sharing information about their offerings, its uniqueness and their price proposition. With SSM in place they can also discuss the sigma level of the process and products. This information intense environment helps new market player to take sound decision based on data. Using all the available information wisely, new player can take informed decision regarding customer segment they wants to address, their value proposition and their competitive price. Comparing sigma level between companies can be another alternative for competition.

Marketing has no credential if it fails to understand customers. Understanding customers require collecting information from all different sources. Marketers now a day have great access to proactive and reactive data which can be used to build effective marketing strategy.

- *Proactive data*: proactive data are collected to understand customers anticipated need. In marketing surveys, interviews, group discussions, direct customer observation are great sources of proactive data.
- *Reactive data*: reactive data are generated based on the result of some activity. Source of reactive information are customer complaint, web site traffic, warranty claims etc.

Advancement in technology is proposing grate ease to collect proactive or reactive information. Because of this technological advancement it is now possible to approach individual from any part of the world through online survey or scheduling interview to collect proactive data.

Recent marketing environment has blur the difference between different marketing activities like promotion, selling, order taking and collecting customer feedback. Organizations are deploying different ways to connect and communicate to customer base like websites, social media, digital ads, email marketing etc. Customers are becoming active part of each and every activity. Traditionally effectiveness of marketing communication was measured through sales or direct customer response only. Today the scenario has changed completely. Effectiveness of marketing communication can very well be tracked through customer's response on online campaign or advertising. Digital platform is the great source of passive information. Organization using online platform can get information about the demographic characteristics of their customers, how they react to their campaign in the form of number of likes and shares, how much time they are spending on digital platform and how they are interacting on digital platform etc. Each conversation between customer and firm is recorded on digital platform. Digital platform is generating so much of information that using these information to design effective marketing strategy is the major challenge to marketer today. Our case study (chapter 7) is going to address all these issues.

4.3.4 Six Sigma Marketing framework

Since interactive marketing environment is non instructive in nature, people make choices based on communication. People themselves are searching for information, hence only thing remain in the hand of marketer is providing them relevant information. Based on this unique conceptual frame work of digital marketing one can influence the customer very easily and get their endorsement for the product or service. This frame work is discussed in great detail by Muralidharan and Raval Neha (2016).

Figure 4.3.2 depicts the customer involvement of interactive marketing at various stages and their interrelationships. With this great leverage in digital mode of marketing it is important to provide customer value to attract, engage and win customers. Understanding what customer value and designing marketing strategy based on their interest is the unbeatable way to get success in this digital era. Not wasting money and resources in creating digital features of business that is not valued by your customer is important part of contemporary marketing strategy (Verma et al., 2004). We now examine the components shown in Figure 4.3.2 critically in detail below.
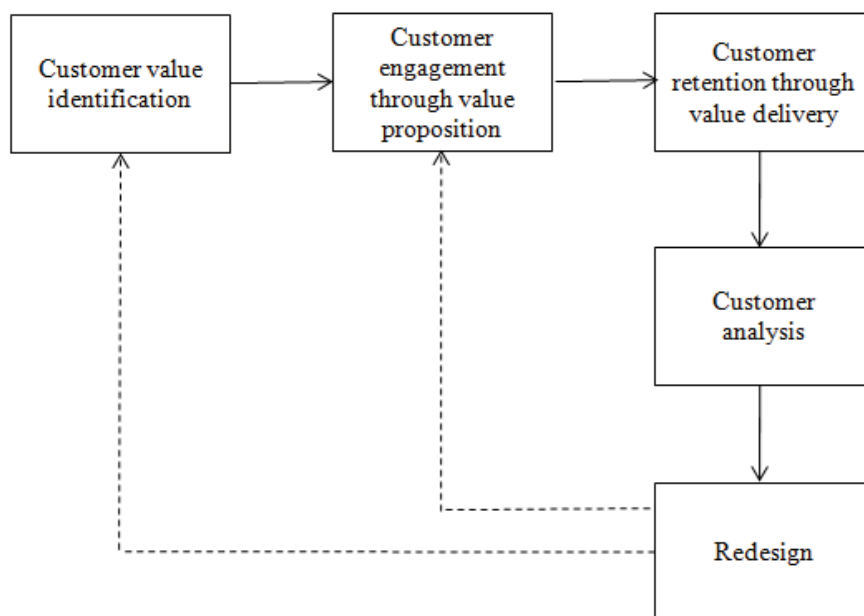

Fig 4.3.2. *Conceptual framework of interactive SSM*

4.3.4.1 Customer value identification in digital environment

With inevitable need of understanding what customer value in offering, the whole question of customer orientation boils down to operationalization of customer value construct. In line with definition of customer value, the attempts to operationalize it are based on understanding what customers perceive to receive from offering over sacrifices they made. To understand clearly about customer value it is important to understand,

- what comprise of customer value
- how customer realize value
- how to measure customer value.

In literature significant attempt has been made to understand the elements of customer value and measurement of customer value.

Elements of customer value have been discussed based on very nature of customer value and stage of offering's used in whole usage cycle. Nature of customer value explores the underlying dimensions of customer preference. Understanding nature of customer value helps companies to identify dimensions based on which they can compete in current market as well as to identify new opportunities to venture in to new market. Traditional customer value was focusing more upon functional aspect such as price and utility, some recent studies also explore multidimensionality of customer value based on emotional and social aspect. The studies conducted to understand nature of customer value are largely based on Abraham Maslow's "hierarchy of needs" (Sheth et al. (1991), Almquist et al. (2016)). Maslow's hierarchy of needs demonstrate growth of human needs based on innate motivation to fulfil those needs as shown in Figure 4.3.3(a). This theory classifies human needs into five different categories namely: physiological, safety, love/belonging, esteem and self actualization (Maslow, 1943). These categories are ranging from most fundamental human needs to the advanced need of self actualization. According to this theory humans are aspire to fulfil their basic needs first (e.g. physiological, safety etc.) and then moving up word in pyramid towards satisfying need of self actualization. Analogous to this theory based on studies conducted by Almquist et al. (2016) and Sheth et al. (1991) following categories of customer value are identified (see Figure 4.3.3(b)).

- *Functional*: perceived value realization based on functional, utilitarian or physical performance of offering. Almquist et al. (2016) list out 14 different elements contributing to this category of value like price, quality, time saving, variety, integrates, less risk, profitable, organize etc.

- *Social*: perceived value realization based on association with group of people. This type of value persuasion is largely influenced by demographic, socioeconomic and cultural aspect (Sheth et al., 1991).

- *Emotional*: perceived value realization based on offering's capacity to arouse emotional feeling. Almquist et al. (2016) list out 10 different elements contributing to emotional value like nostalgia, wellness, fun, reduce anxiety, attractiveness etc.

- *Epistemic*: perceived value realization based on offering's capacity to provide novelty, arouse curiosity or satisfy desire for knowledge (Sheth et al., 1991).

- *Conditional*: perceived value realization based on offering's use in specific situation. Situations in which this value can be realized are during use of some seasonal product, unique life event, emergency situation etc.

- *Life changing*: perceived value realization based on offering's capacity to provide life changing experience. Almquist et al. (2016) list out 5 different elements contributing to life changing value like motivation, affiliation, self-actualization, heirloom and hope.

- *Social impact*: perceived value realization based on offering's capacity to contribute to the level of self- transcendence by overcoming self limits. This element hold position at the top of customer value ladder.
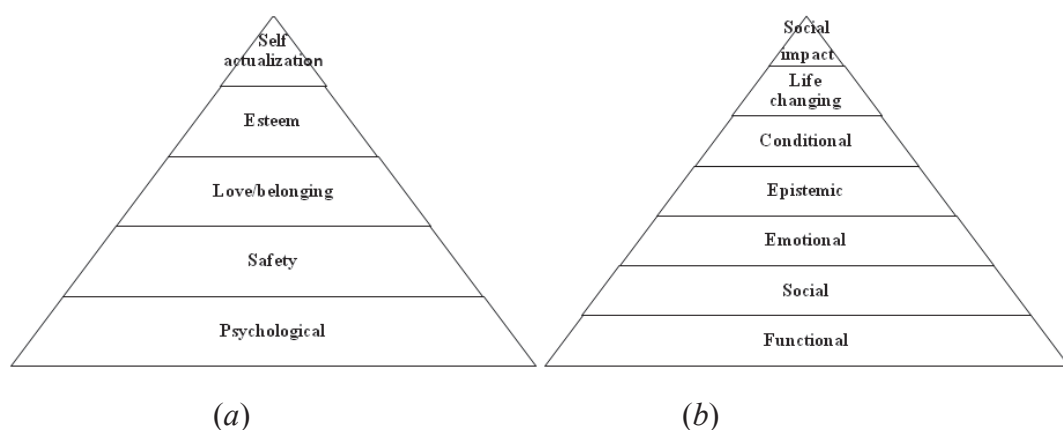

Fig 4.3.3 (*a*) *Maslow's hierarchy of need*
(*b*) *Customer value hierarchy model*

Almquist et al. (2016) examined the following advantages to the companies focusing adequately on customer value:

- Companies performing well on multiple elements of value would have more loyal customer base.
- Companies performing well multiple elements would grow revenue at faster rate than others.
- Companies with effective digital presence experience astonishing market share growth.

Hence, it is important for companies to choose their value elements strategically. For any companies competing based on each value type is not possible. Hence, Companies need to choose best amalgamation of value elements that give them competitive advantage over other players in the market.

One of the major characteristic of integrating Six Sigma Marketing approach is integrating different stages of customer decisions as processes. Figure 4.3.4 represents different stages of customer decision cycle and related marketing efforts required at each stage. Taking effective marketing decision based on customer decision stages is the important part of successful marketing strategy. Effective marketing efforts require great combination of strategic and tactic decision. Without aimed and properly designed strategic decision, investing efforts merely in tactic activities leads to sub optimized marketing efforts.

From marketers point of view customers are passing through three major phases of decision cycle. They are

- *Awareness*: In this phase customers are merely aware about offerings
- *Consideration:* In this phase customer realize value in offerings and intend to purchase it. They are called prospective customers.
- *Conversion:* In this phase customer has already purchase offerings. They are called existing customers.

Customers who are aware of quality programmes in the organization will definitely consider the product with complete trust and satisfaction. Aimed marketing efforts inspire customers to move in next stage of purchase funnel as shown in Figure 4.3.5. This is called the cycle of

lead generation to purchase. Companies are adopting digital face to interact with their customers and to create strong channel of communication. Customers are relying upon firm's digital platform to take decision about possible purchase. Hence it is important for the firm to understand what customer value in their digital face.

One of the major part of company's digital marketing effort is their online presence through website. Quality of website plays important role to drive business and hence creating revenue. As explained by Bai et al. (2008), website quality is related with customer satisfaction and hence ultimately customer purchase intentions. Many authors have described different dimension of website quality based on its functionality and effectiveness. Perdue (2001) consider site navigation, attractiveness and information content as important characteristic of website. Szymanski and Hise (2000) focus upon convenience, site design and financial security as important part of web based experience. Ranganathan and Ganapathy (2002) consider ease of navigation on website, time taken for navigation and page download and use of multimedia on website.
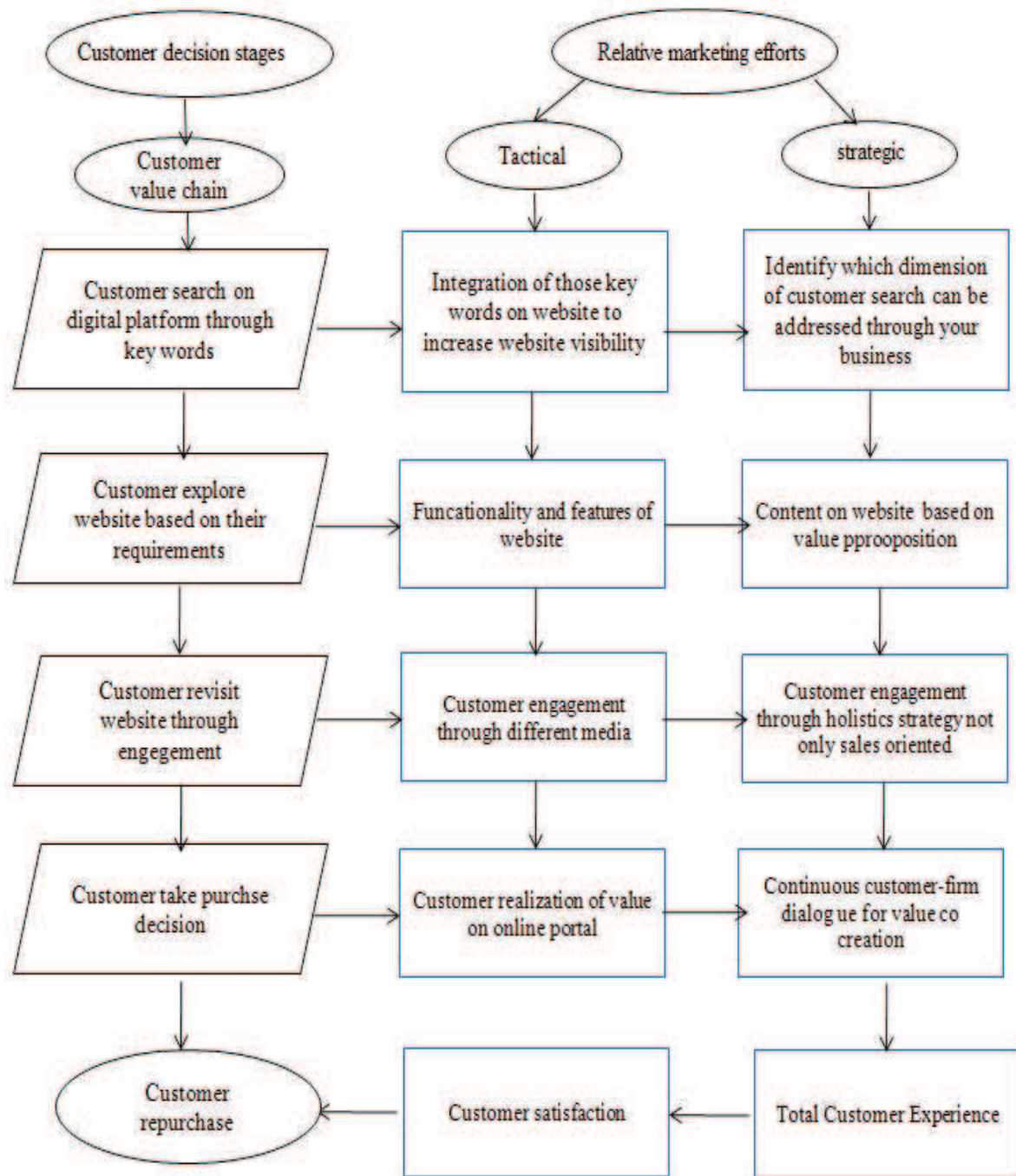
Fig 4.3.4. *Customer decision stages and relative marketing efforts required*
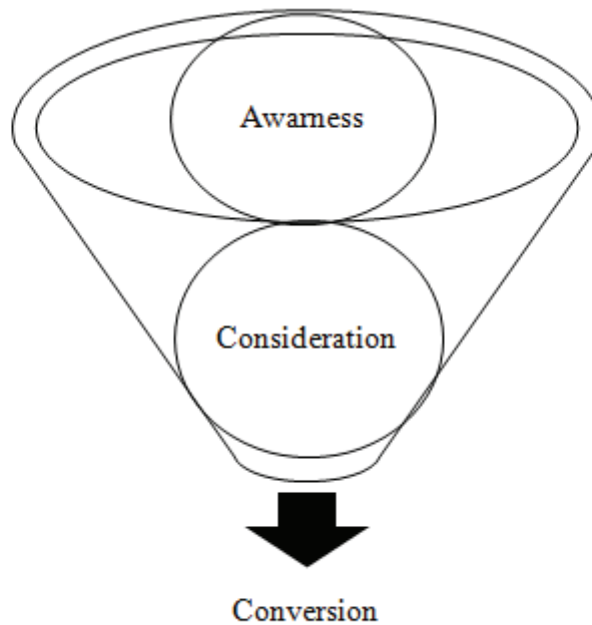
Fig 4.3.5. *Customer purchase funnel*

In general as most important parameter of effective navigation,

- Website should be easy to locate and page download time should be as less as possible so that customer can easily reach on page.
- Content on web page should be detailed and should highlight core business value to facilitate informed decision.
- Navigation on websites should facilitate lucid flow of information to keep customer engage on website.
- If it is e-commerce activity, secure login is the most important dimension to avoid any hesitation from customer.

On page survey, webpage visibility, webpage downloading time and clarity of information are the few metrics, which attracts the customers for repetitive visit of the webpage.

4.3.4.2 Customer engagement through value proposition

In information intensive environment, when customers are getting exposure to new offering every minute, it is important to keep them engage with your offerings. Recent marketing

literature largely focuses upon creating close customer bond and there by establishing close channel of communication with customers. Understanding customer's requirements and engaging them through different channels of communication is the unique characteristic of relationship marketing. Keeping customer engage through different digital platforms helps them to reconsider offerings with reference to other competitors. Digital platform provides unique opportunity to engage customers through different channels like social media, blogs, discussion forums etc. Many authors have reported importance of social media in developing successful digital marketing strategy (Moncrief (2014), Tiago and Verı´ssimo (2014), Agnihotri et al. (2012) ant the references contained therein).

Engaging customers through integrated channel of message helps them to understand offerings value holistically. This ultimately pushes them to consideration phase from awareness phase as shown in Figure 5.3.4. Face book likes, sharing, reactions, inquiry, web page navigation information, page drop off time, bounce rate are the metrics used in this phase.

4.3.4.3 Total customer experience through interactive marketing

Initiating customers to take purchase decision require intense firm-customer communication. Going beyond merely engaging customers on digital platform, this phase proliferate real interactive nature of marketing. Keeping them engage through different medium helps us to understand how they evaluate offering over array of things available in the market. Streamlining business efforts to support promises proposed on digital platform is important part of this digital marketing success. Creating pleasurable TCE through performance of required activity is what make this step unique and important. This is the stage where customer actually experience offering and have value realization instead of just having virtual experience. Realization of TCE through SSM is discussed by Raval and Muralidharan (2017a) through empirical study.

4.3.4.4 Customer analysis

As explained in 4.2.2 customer repurchases offerings based on their satisfaction with overall experience of offering. Right from purchase decision to customer engagement, customer, and each phase of firm-customer interaction are determinant of overall customer satisfaction

level. Satisfied customers based on appropriate value proposition tend to remain loyal to the brand and hence can contribute increased revenue. Customer review on digital platform plays important role to assess customer satisfaction.

4.3.4.5 Redesign

Customer review of offering provides great opportunity for improvement in offering as well as proposing value on digital platform.

Proactive and reactive data, based on customer experience are the major source of information in this stage. Major difference between first phase about understanding customer value and redesign phase is, in first phase customer evaluate offerings based on perceived value and this redesign stage consider customers evaluation information based on their real experience with offering. Considering TCE as the authentic source of information, redesign phase initiate relative change in marketing strategy of the organization and hence some value added changes in their digital platform.

4.3.5 Six Sigma Marketing phase based methodology

Managing all the above steps of digital marketing model through appropriate data metrics is the unique feature of SSM. Based on Six Sigma Digital Marketing Model (SSDMM) proposed, the process of managing digital can be seen with reference revised phase based DACS (Design-Act-Convert-Sustain) methodology.

- *Design*: Designing a marketing strategy is the best part of different media to connect with customer base. Bringing together different medium to connect with customers and keeping them engage with offering is the key dimension of this phase. This phase can best address the aspects like: Understanding what customer value, Proposing it through business model, Communicating it through different mode
All the above stated purpose can be served through best amalgamation of following media as explained by Chaffey and Patron (2012),

  - *Owned media*: This media form is considered as the digital property of the organization. This is the most important media form with referece to digital

presence of the compant. Owned media includes website, blogs,mobile apps etc.

- *Paid media:*This form of media is best option to go for to connect with wider mass of people. It includes paid ads, display ads, affiliate marketing etc.
- *Earned media:* This media form is earned by the company through real performance. It includes word of mouth, infulencer outreach, publisher outreach etc.

- *Act*: After deciding upon the different types of media to connect with customers, next phase in the process will be to act. Here, the focus is to initiate customer to take action expected by the marketer. Downloading newletter, sending inquiry, loggin in to website are the actions taken by customers that indicates their interest in offering proposed by organization.

- *Convert*: Once the customer act in the desired direction, the next step is to *sealing the deal*. This step require intense customer communication based on their customized requirement and if required possible negotiation.

- *Sustain*: Getting customer is not the only objective of successful marketing efforts. Marketing effectiveness can be best examined through its potentiality to create loyal customer base. Sustaining customers based on flexible updates value proposition is what this phase focuses upon.

In recent era of digitization, when marketers are behind promoting their offering like never before, aimed marketing efforts has created its own unique space. With data rich digital platform marketers can systematize their efforts to get best ROI. Muralidharan and Raval(2017b) have discussed implementation of SSM through case study.This chapter propose guideline to digital marketers to progress in that direction. Following components proposed by researchers make this SSM model unique compared to previous studies. Hence,

- This model promote process based approach for marketing efforts with special reference to digital marketing efforts.
- Equivalent to standard DMAIC approach, unique DACS phase based approach is proposed with reference to digital marketing environment.
- Managing different process phases of SSM through unique digital based metrics is actualized for better productivity and customer satisfaction.