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ROLE OF INFORMATION TECHNOLOGY IN CUSTOMER SATISFACTION: A STUDY FROM INDIAN LIFE INSURANCE INDUSTRY

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Abstract
In the contemporary LPG environment in Indian financial sector, particularly in the huge insurance market, information technology plays its major role in customer services and consequently in customer satisfaction. After the invasion of Information Technology in each and every industry, there is a drastic change in customer services, particularly in insurance sector from purchasing of a policy to payment of premium to claim settlement. This paper analyses the role of information technology in Indian life insurance sector. The major objective is to study customers' perception and satisfaction about the quality of information provided through Information Technology and to cross compare the same in the public and private life insurance spheres. It is found that perceptions of public and private sector life insurance customers on the services rendered by the websites of life insurance customers are not significantly differ. It is also found that IT has still to be used in full swing, since the agents are the dominant channel partners of insurance companies.

Keywords: Life Insurance, Indian Insurance Industry, Information Technology, Customer Services and Customer Satisfaction.

Introduction

The world is a mouse click away. IT has shrunk into a global village due to the influence of Information Technology. Almost every industry has been undergoing dramatic changes along with the significant advances in telecommunication and computer technology. Today all a person needs is a computer, a browser, and access to internet. The Insurance companies are utilizing the Information technology applications for better customer service, cost reduction, new product design and development and many more. The customer expects everything to happen on the click of a mouse whether it is renewal of policy or new policy. For insurance players, the need to establish and grow brought in the need to find ways of tapping technology to achieve higher efficiencies and sharpen the competitive edge. Information technology can help all insurance companies to have information regarding viability of different products. By proper presentation, the customers can be made aware of the benefits of a particular product (Kapahi, 2006). Excellent customer services are therefore required to satisfy and retain existing customers and bring in more new customers. This is where IT has a major role to play.

IT–Enabled Services

The internet and related advances in IT significantly affect financial services in general and insurance services in particular. The insurance industry has considered internet and other IT – enabled services as a channel of communication rather than the channel of distribution. Life insurance companies use Information Technology as a tool, which was not possible during the manual system working, to provide instant services to their customers and ensure customer satisfaction. Thus, it makes sense to study the various services offered by life insurance companies by means of Information Technology.

Life insurance companies provide variety of general and policy information to the policyholders. It has become easier for the policyholders to get their ***policy related information*** within a few seconds as compared to the past, when there were very large size ledgers to record the transactions on which

sometimes there was no control. Customers can any time access the status of their policy and retrieve statement of account on line and even get instant alerts and notifications. Through this facility, the customer can access information regarding status of policy, loan, revival, premium due, policy calendar, maturity calendar, and etc.

Days of making premium payments in a branch of insurance company or an associated bank spending valuable time have gone. ***Online Premium payment*** enables life insurance customers to make renewal premium payments instantly by providing and registering bank account/card details. ECS (Electronic Clearing System) is also an automated facility which debits the amount of premium periodically from the bank account specified by the customer, on the premium due date. Nowadays, life insurance companies provide the facility of Premium Payment through SMS. Premium payments can be made anytime and from anywhere by sending a simple SMS. IT has made obviously the payment of premium simpler than ever before.

Life insurance companies have been selling variety of products depending upon different needs of the public. An agent or a company employee may not be able to provide a customer all relevant information of these different products and even sometimes they may not aware of all such products. Such information can be obtained easily from the web portals of insurance companies. All types of products and their features such as term and benefits of the policy are available in the company's website. A customer can also access the ***product information*** any number of time till he is satisfied with the service.

Life insurance companies have started offering flexible products with flexibility in term of the policy, mode of payment, and even sum assured. Like the product related information, a customer, through the ***Premium Calculator***, can get the information on the amount of premium payable to a particular policy based on date of birth, type of the policy, the term of policy, sum assured, mode of payment of premium (Yearly, Half yearly, Quarterly or Monthly) and etc. The information on premium payable obtained through this option is generally the basic premium.

Another milestone in providing better services to customer is the establishment of ***information centres or customer care centres***. All life insurance companies have commissioned their policy service information centres. This centre is equipped with state of the art technology and manned by trained persons. They are generally operating on the basis of 24 x 7 hours service. People desiring any information regarding their life Insurance policies can get the same by calling these centres. Interactive Voice Response System (IVRS) is another form of information centre. This is a menu driven service. Customers can get selected information regarding their policies by calling the prescribed telephone numbers. These kinds of phone help lines enable the customers to access instant services whenever they require.

As customers also expect the same quality and variety of services on every distribution channel, insurance companies need to find ways to present the right service at the right moment and at the right time. ***E–Service channels*** are the alternative medium for providing insurance related services in this era of information technology. E–Service channels such as e-mail, web chat, and co-browsing continue to increase in popularity, partly driven by generational preferences. Forward–looking insurance companies have the opportunity to get ahead of competitors by implementing strong capabilities in these channels. The insurance industry has yet to adopt E–Service best practices. Use of mobile technology is also one possibility to meet the challenge of presenting services to the customer.

Insurance Selector is a type of online service rendered by life insurance companies, particularly LIC of India. This will help one in deciding which plan is suitable according to his or her age, occupation, income and insurance needs. Customer will get advice on the type of the policy and the term of the policy, which will best suit his needs. Life insurance companies also provide the service of online calculation of income tax. Websites of insurance companies gives the guidelines of income tax calculations, available income tax rebates on investment in life insurance policies and the limit of investment to avail the tax rebate.

Another type of Insurance Services is the provision of ***online insurance forms***. All forms such as proposal form, revival form, and claim form related to life insurance business are available in the websites of life insurance companies. Instead of going to a branch, a customer can easily download from the website. Apart from these forms, customers can also obtain renewal premium receipt, account statement of existing policy and income tax certificate. Life insurance companies also offer online ***information of bonus*** to their customers.

Life insurance companies have provided the ***links to their subsidiary companies***. Using this option one can access the products and services offered by the subsidiary companies. Life insurance companies also offer the service of providing information on net asset value of unit liked insurance plans. A customer can get the NAV of his policy from the website of his insurance company and even switch over from one fund to another. Mobile technology is frequently used to provide such services. The list is obviously endless.

Literature Review

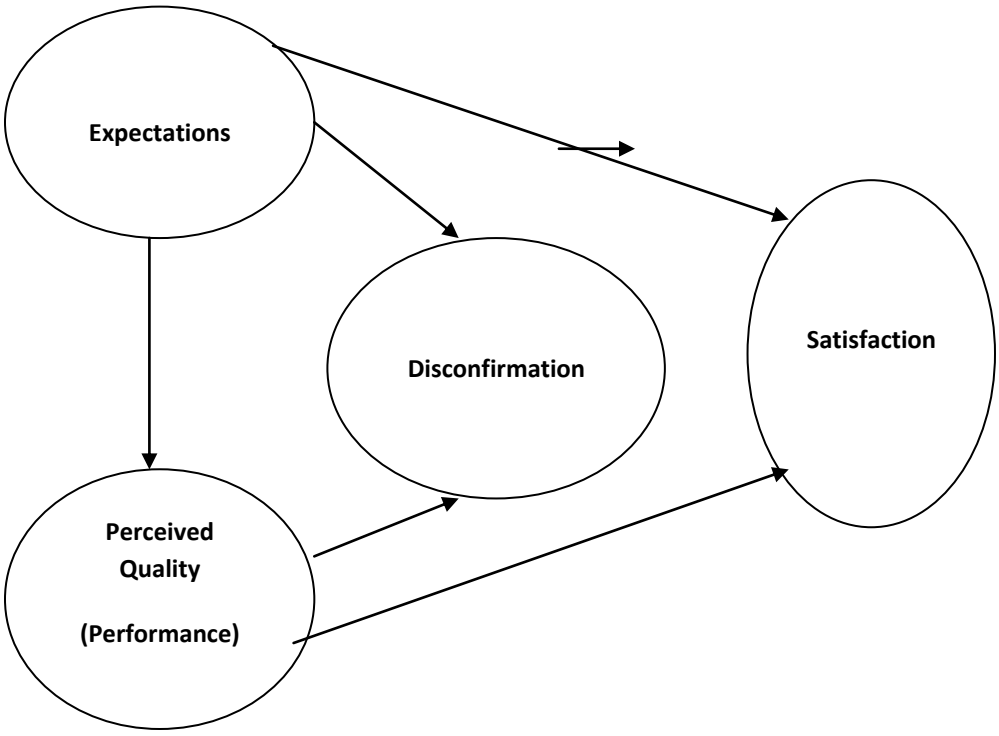
Customer satisfaction has been traditionally studied in marketing area as one of the critical attitudinal variables that may influence customer behavior. Most of the studies of satisfaction in marketing literature are based on the disconfirmation theory. Disconfirmation is defined as consumer subjective judgments resulting from comparing their expectations and their perceptions of performance received (Spreng, Mackenzie and Olshavky, 1996; Mckinney, Yoon, and Zahedi, 2002). The experiment of Tse and Wilton (1988) showed that perceived performance exerts a direct influence on customer satisfaction/dissatisfaction, in addition to the influences from disconfirmation and expectations. Buyers form expectations of a specific product or service before purchase and perceive quality level, which is influenced by expectations.

x Figure A shows how satisfaction judgment is related to expectancy–disconfirmation approach. In the figure, the arrow drawn from expectations to perceived quality explains that indicated perceived quality might increase or decrease directly with expectations. Perceived quality may either confirm or disconfirm pre–purchase expectation. The determination of the extent to which perceived quality expectations are disconfirmed in the figure by arrow drawn from expectations and perceived quality to disconfirmation. Satisfaction is positively affected by expectations and the perceived level of disconfirmation that is also shown by arrow in the figure. Disconfirmation and perceived quality has strong impact on satisfaction (Oliver, 1980).

It is postulated that Customer satisfaction is a function of discrepancy between a customer's prior expectations and his/her perceptions regarding the purchase (Churchill and Surprenant, 1982; Tse and Wilton, 1988; Yi, 1990; Parasuraman, Zeithaml, and Berry, 1985 and 1988). This theory represents psychological evaluation processes and provides an understanding of expectations, desires, experiences, and performances that may affect customer attitudes. It has been therefore argued that companies need

to move from a product centric culture to a customer centric model to sense and meet customer demands so as to maintain their customers satisfied (Nambisan 2002; Prahalad and Ramaswamy 2004; Seybold, Marshak and Lewis 2001).

Figure A: Satisfaction Formation



Service encounters are critical moments of truth which lead to customer satisfaction. Bitner, Faranda, Hubbert, and Zeithaml (1997) identified three levels of customer participation in a service encounter: low level, moderate level and high level. They defined service encounters as face-to-face interactions between buyers and sellers, and identified the three categories of service encounters (e.g. service failure, special customer needs, and unprompted employee actions) as antecedents of satisfaction/dissatisfaction. Information Technology has also been employed as a related construct for customer satisfaction (Lee, Pi, Kwok, and Huynh, 2003; Kohli, Devaraj, and Mahmood, 2004; Liau, 2002; Muylle, 2004). Bitner, Brown, and Meuter (2000) proposed the concept of technology infused service encounters, while emphasizing the growing role of technology in service encounters. Due to continuous improvement in technology, many parts of the face-to-face interpersonal dynamics between sellers and customers have been replaced by technology-based interactions.

Mckinney et al. (2002) based on the proposed model of Spreng et al. (1996) presented a model which states that web customer satisfaction has two distinctive sources: satisfaction with the quality of the website's information contents and satisfaction with the web sites system performance in delivering information. These two factors affected by customers' prior expectations, possible discrepancies between such expectations and the perceived performance of the web site.

The paramount goal of marketing is to understand customers and their buying behaviour. One of the main perspectives of the consumer behaviour research analyses buying behaviour from the so–called

"information processing perspective" (Holbrook and Hirschman 1982). According to the model, customer decision–making process comprises a need–satisfying behaviour and a wide range of motivating and influencing factors. It is consumer attitudes that are usually named as the major factor in shaping consumer behaviour. The buying intent of a Life Insurance product by a small investor can be due to multiple reasons depending upon customers risk return trade off (Debasish, 2004). These include advertisement, agent's recommendations, and friends' or relatives' suggestion, expected returns, brand name, extra coverage, maturity amount, and etc. (Chow–Chua and Lim, 2000; Retzloff, 1989; Lahiri, 2004; Bilkey and Nes, 1982; Arora and Stoner, 1996). Curran, Meuter, and Surprenant (2003) found that attitude toward technologies affected intention to use the technologies. Since life insurance is a long–term benefit, a customer takes deep considerations while deciding to purchase a life insurance policy. The widespread diffusion of the Internet has created an explosion in the growth of electronic channels, including direct channels (that is, individual company web sites), electronic markets, or "electronic intermediaries over which multiple buyers and sellers do business" (Malone, Yates, and Benjamin, 1987), and other cybermediaries (Sarkar, Butler, and Steinfield, 1995). However, consumers have not shown a marked preference for purchasing insurance product via the Internet (Trembly, 2001). The traditional system of "agents" is the dominating one in India and this will continue to be a major distribution channel for insurers, since this system has core roots in rural sector.

Objectives of the Study

The present research seeks to leverage Information Technology for customer service in life insurance industry in India. Accordingly, the specific objectives of this research study have been set as follows:

1. To highlight the role of Information Technology in providing various services to life insurance customers.
2. To study customers' perception and satisfaction about the quality of information provided through Information Technology.
3. To measure the extent to which Information Technology has influence on the purchase of life insurance products
4. To cross compare the same in the public and private life insurance spheres.

Research Methodology

Research design is a framework for conducting a marketing research project. This research has been carried out on life insurance business in India. The sample customers chosen for the study are those who have purchased a life insurance policy after the liberalization of insurance industry, i.e., after the year 2000 from either LIC or any one of the private life insurance companies namely–ICICI Prudential, HDFC Standard life, Birla Sun life, SBI Life and Bajaj Allianz. A set of 1000, public (500) and private (500), life insurance customers were administered a well–structured questionnaire. The sample base is Delhi and NCR. Non-probability sampling is chosen as the basic method to carry out this study and convenience sampling is chosen as the specific method.

Research Constructs*:* The decision variables for buying a life insurance policy relate to perception, promised return and to the attractiveness of the offer. From informal discussions with life insurance customers and agents and from references to earlier studies the following 10 relevant variables including "Technology" were identified and included in the research.

- Advertisement
- Agent's Recommendation
- Conveniently Obtainable

- Excellent Product Feature
- Friends/Relatives Suggestion
- Maturity Amount to be received
- Reasonable Premium
- Reputation of the Company
- Tax Benefits
- Technology

Questionnaire Design: Questionnaire contains the questions related to the factors influencing the purchase of life insurance products. Respondents were requested to mark the agreement of each of the items on a 5–point Likert scale ranging from "Strongly Agree = 5" to "Strongly Disagree = 1". Same scale was used to measure the level of customer satisfaction on the information given by the life insurance companies through printed materials, advertisements, websites and agents.

Research Hypotheses: In order to carry out the study in the desired direction, a set of research hypotheses have been developed. Following hypotheses regarding purchase preferences and satisfaction on the information provided through IT were formulated and tested.

H_1 : Public and private sector customers significantly differ in their preferences while purchasing a life insurance policy.

H_2 : Customers are equally satisfied with the services provided through IT by public and private sector life insurance companies.

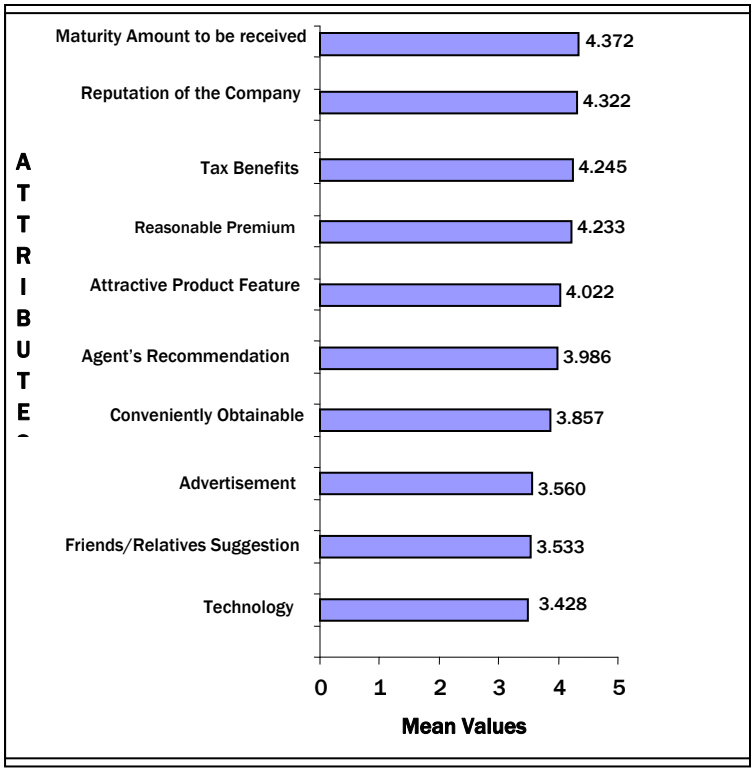
Statistical Tools: Hypotheses formulated for this study was tested using various statistical tools. Cross Tabulation, Measure of Central Tendency (Arithmetic Mean), Standard Deviation, paired sample t–test and one – way ANOVA are the basic data analysis tools to be used in this study. Diagrams and graphs were also used to represent the analysed data. *Paired sample t–test* at 95 per cent confidence level was utilized to find the significance difference on various attributes between public sector and private sector customers in life insurance industry.

Analysis and Major Findings

Customers have different preferences while purchasing a life insurance policy. The analysis reveals that "Maturity Amount to be received" is the top priority among the life insurance customers with mean value 4.372. Following it, "Reputation of the Company" is the second top preference; "Tax Benefit", "Reasonable Premium" and "Product Features" are the third, fourth, and fifth important preference. Among all attributes, "Technology" is the least preferred one (mean=3.428), while purchasing a life insurance policy. All variables with their respective mean values are shown in figure B.

It is to be noted that *"Reputation of the Company" is the most preferred attribute in case of LIC customers,* whereas it is the third in case of private sector, while purchasing a life insurance policy. At the same time, for private sector customers, "Maturity Amount to be received" is the most preferred one. However, the research shows that the attributes such as, "Advertisement", "Friends/Relatives Suggestion", and "Technology" are the least preferred variables for both public and private sector customers. Among these variables, "Technology" is at the bottom of the ladder. It shows that *"Technology" is still to play its role in insurance sector.*

Figure B: Product Preferences–Mean Values



In order to test whether there is any difference between the public and private sector customers in preferences of life insurance products while deciding to purchase a policy, a paired sample t–test is used. In the table A, a positive difference indicates that the preference of LIC customers on a particular attribute, while deciding to purchase a life insurance policy, is more than that of their counterparts in the private sector. The t–values for Excellent Product Feature, Reputation of the Company, Advertisement, and Tax Benefits indicate significant difference at level $p \leq 0.05$. Therefore H_1 is accepted. This means that on these four attributes, public and private sector customers significantly differ in their preferences while purchasing a life insurance policy. Moreover, the positive sign of the t–value indicates that preferences of LIC customers are more than that of private sector customers. Only on Agent's Recommendation, the t–value is negative which shows that the preferences of private sector customers are more. However, the test failed to show any significant difference between the public and the private sector customers on "Technology" to influence the purchasing behaviour of life insurance customers.

Knowledge and information about life insurance plays a major role in deciding on the purchase of a life insurance product. 70.8% respondents have agreed that they had enough knowledge about life insurance before purchasing the policy. Customers can gather information about life insurance policies from different sources. They were given the commonly used four sources of a life insurance company: Websites of Insurance Companies, Insurance Agents, Newspaper/ TV Advertisements, and Printed Materials. A respondent could select more than one choice. Analysis shows that agents are the major source from where customers could collect information about life insurance policies. 78.2% respondents have accepted that they got information from insurance agents. It is thus understood that agents are not

only the distribution channel of insurance companies, but also the source of information. 25.2% customers have got information from websites of insurance companies; 22.6% from newspaper/TV advertisements; and only 15.1% from printed materials.

Table A: Product Preferences: Public vs. Private – Attributes

Attributes	Mean Public	Mean Private	Mean Difference	t
Advertisement	3.694	3.426	0.268	***3.975****
Agent's Recommendation	3.962	4.010	– 0.048	– 0.766
Conveniently Obtainable	3.878	3.836	0.042	0.728
Excellent Product Feature	4.076	3.968	0.108	***2.173****
Friends/Relatives Suggestion	3.560	3.506	0.054	0.838
Maturity Amount to be Received	4.406	4.338	0.068	1.523
Reasonable Premium	4.274	4.192	0.082	1.675
Reputation of the Company	4.454	4.190	0.264	***5.577****
Tax Benefits	4.350	4.140	0.210	***3.661****
Technology	3.464	3.392	0.072	1.008

** → t – values at p ≤ 0.05 (two–tailed)*

Table B: Satisfaction Level on Information given by Companies through IT

Medium	Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree
Printed Materials	16.3%	46.9%	26.0%	07.4%	03.4%
Newspaper/TV Ads.	14.7%	38.5%	31.9%	11.4%	03.6%
Websites of Insurers	23.6%	42.6%	25.5%	05.5%	02.7%
Insurance Agents	53.9%	34.3%	06.4%	04.6%	00.8%

The table (Table B) shows the satisfaction level of customers on the understandability of information given by life insurance companies through printed materials, newspaper/TV advertisements, websites, and agents. Figures are shown in the percentages of the total responses on each source of information. It is understood that four sources, a majority of 88.2% customers (53.9% strongly agreed and 34.3% agreed) have agreed that information given by insurance agents are quite satisfactory. Following it, websites of insurers provide more understandable information to customers. Among the customers who used the websites of insurance companies to gather information on life insurance services, 66.2 % agreed that they were satisfied with the information they got from the websites. The disagreement level is more in case of newspapers and TV advertisements with 11.4% disagreement and 3.6% strong disagreement. An overview of this analysis shows that the agency system is still the major contributor to the growth of life insurance business in India.

Table C indicates the analysis of one – way ANOVA test in determining the difference on the satisfaction level of life insurance customers on the information obtained through the web sites of insurers. The F–value (F = 0.954) indicates no significant difference at level p>0.05. It means that *perceptions of public and private sector life insurance customers on the services rendered by the websites of life insurance customers are not significantly differ*.

Table C: Public vs Private Sector: Perception on IT

Sector		Mean	Standard Deviation	F	Sig.
	Public Sector	3.8230	0.92574	0.954	0.329
	Private Sector	3.7190	1.01836		

Conclusion

Information Technology has started entering in to the financial services particularly after the liberalization of financial sector in India in the early 90's. Consequently, insurance sector has been using IT for the expansion of business on all aspects. All Insurance companies nowadays use the IT to provide different kinds of information through their web sites to maintain their customers informed and satisfied. However, factors such as low level of literacy, inadequate facility to access the IT and etc. have become the major hurdles for the deep implementation of IT in Indian insurance sector. "Online Purchase" is still to be implemented as a mode of purchase. Even in urban areas, customers are heavily depending upon the system of agents in receiving better service. Among other variables studied under this research, customers have not considered technology as an influencing factor for the purchase of life insurance products. "Technology" is thus at the bottom of the ladder. It is concluded that *"Technology" is still to play its role in insurance sector*. However, among the customers who utilized the Information Technology (websites of life insurance companies) as a source of information, majority of them are satisfied with the services they received. This research also reveals that there is no significant difference in the level of customer satisfaction between the public and private sector life insurance customers on the services rendered by insurance customers through IT. Finally, the insurance companies need to educate their customers to become more IT savvy by providing more services through IT.

References

1. Agarwal, V. K. (2001), "Insured Expectations in a Liberalized Insurance Market", *Chartered Secretary*, 4, August, 34 – 41.
2. Bitner, M. J., Brown, S., and Meuter, M. L. (2000), "Technology Infusion in Service Encounters," Journal of the Academy of Marketing Science, 28:1, pp.138 – 49.
3. Bitner, M. J., Faranda, W. T., Hubbert, A. R. and Zeithaml, V. A. (1997), "Customer Contributions and Roles in Service Delivery, International Journal of Service Industry Management, 8:3, pp. 193–205.
4. Churchill, G. A. and Suprenant, C. (1982), "An Investigation of the Determinants of Customer Satisfaction", Journal of Marketing Research, Vol. 19 (November), pp. 491–504.
5. Curran, J. M., Meuter, M. L., and Surprenant, C. F. (2003), "Intentions to Use Self-Service Technolgies: A Confluence of Multiple Attitudes," Journal of Service Research, 5:3, pp.209 – 24.
6. Debasish, S. S. (2004), "Exploring Customer Preferences for Life Insurance in India – Factor Analysis Method", *Vilakshan*, XIBM Journal of Management, 1:1, 7–15.
7. Kapahi, S. K. (2006), "Technology in Life Insurance – Genesis and Evolution", IRDA Journal, April, pp. 23 – 5.
8. Kohli, R., Devaraj, S., and Mahmood, A. M. (2004), "Understanding Determinants of Online Customer Satisfaction: A Decision Process Perspective," Journal of Management Information Systems, 21:1, pp.115 – 35.
9. Liau, S. S. (2002), "Understanding User Perceptions of World Wide Web Environments," Journal of Computer Assisted Learning, 18:2, pp.137 – 48.

10. Lee, J., Pi, S., Kwok, R. C., and Huynh, M. Q. (2003), "The Contribution of Commitment Value in Internet Commerce: An Empirical Investigation," Journal of the Association for Information Systems, Volume 4, pp.39 – 64.
11. Malone, T. W., Yates, J., and Benjamin, R. I. (1987), "Electronic Markets and Electronic Hierarchies", *Communications of the ACM*, 30:6, 484 – 97.
12. McKinney, V., Yoon, K. and Zahedi, F. M. (2002), "The Measurement of Web–Customer Satisfaction: An Expectation and Disconfirmation Approach", Information System Research, 13:3, pp. 296–315.
13. Muylle, S. M. (2004), "The Conceptualization and Empirical Validation of Web Site User Satisfaction," Information and Management, 41:5, pp.543 – 60.
14. Nambisan, S. (2002), "Designing Virtual Customer Environment for New Product Development: Toward a Theory", Academy of Management Review, 27:3, pp 392 – 413.
15. Oliver, R. L. (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions", Journal of Marketing Research, 17:4, pp. 460–9.
16. Parasuraman, A., Zeithaml, V.A. and Berry L.L. (1985), "A Conceptual Model of Service Quality and its Implications for the Future Research", Journal of Marketing, 49 (Fall), pp. 41–50.
17. Parasuraman, A., Zeithaml, V.A. and Berry L.L. (1988), "SERVQUEL: A Multiple–Item Scale for Measuring Consumer Perceptions of Service Quality", Journal of Retailing, 64:1, pp. 12–40.
18. Prahalad, C. K., and Krishnan, M. S. (1999), "The new meaning of quality in the Information Age", Harvard Business Review, 77:5, pp 109 – 18.
19. Sarkar, M. B., Butler, B. and Steinfield, C. (1995), "Intermediaries and Cybermediaries: A Continuing Role for Mediating Players in the Electronic Marketplace", Journal of Computer Mediated Communication, 1:3, pp. 1–14.
20. Seybold, P.B., Marshak, R.T., and Lewis, J.M. (2001), The Customer Revolution Crown Business, New York.
21. Spreng, R. A., Mackenzie, S. B. and Olshavky, R. W. (1996), "A Reexamination of the Determinants of Customer Satisfaction", Journal of Marketing, 60:3, pp. 15–33.
22. Trembly, A. C. (2001), "Why the Insurance Industry has failed in the Online Distribution Channel", National Underwriter, 105:37, 19–21.
23. Tse, D. K. and Wilton, P. C. (1998), "Models of Consumer Satisfaction Formation: An Extension", Journal of Marketing Research, 25:2, pp. 204–12.
24. Yi, Y. (1990), "A Critical Review of Customer Satisfaction", Review of Marketing 1990, American Marketing Association, Chicago, IL.
25. Zeithaml, V. A. and Bitner, M. J. (1996), Services Marketing, McGraw–Hill, New York.