



A Study on the Transformation of Consumer Relationships as a Combination of Human Interactions and Digital Transformations

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Abstract—In an age when customers have access to huge amount of information about a company, its competitors and its products, customer experience becomes highly important as it becomes an important source for a long-term competitive advantage. However, success for any company does not depend just on digital engagements and excellence. What is required is a digital-first attitude with a human touch. This study tries to focus on how these elements can be perfectly combined in order to give the maximum benefit to both the customers and the companies by taking in consideration variables like the level of adoption of technology and its satisfaction rate among customers by drawing relationships between the same.

Keywords—customer relationship management; interaction levels; satisfaction levels; hybrid customer interaction; channel convergence; technology convergence;

I. INTRODUCTION

Technology is the sixth sense in this digital era. It assists humans in their professional as well as leisure work. According to several studies, the scale and the pace of technology would increase tremendously over the next 5-10 years. Customer relationships, business channels, conversations, social interactions are becoming digital [1]. Most of this technology would all be linked to the web which would have a strong impact on the current relationship between companies and consumers. Companies are now entering into phase of automation which will change the role of customer service, marketing and sales professionals forever [2]. This relationship would be completely digitally driven from the start to the end. The goal would be to minimize the difference between online and offline. Consumers are already adapting to the ways of self-service, intelligent data use, automation and a fast and adaptive customer service.

Digital transformation is often referred to as the integration of digital technology into all the areas of a business, which results in fundamental changes in how a business operates and the value it delivers to its customers. It is a phenomenon which is experienced in almost all the areas of a business including marketing automation, social collaboration initiatives, various CRM projects, and other business process optimization tasks [3]. It is no doubt that being digital is like a fuel for many sales organizations. Many companies who use digital in an effective way often enjoy five times the growth of their peers who are not yet adapted this digital transformation [4]. Companies now realize that whoever fails to make this transition would not be able to survive in the competition. Many argue that with the wide acceptance of technologies such as artificial intelligence, data analytics, chatbots, self-service, etc., the role of a human being in the corporate workplace is at risk, but at the same time these companies also realize that winning the hearts and minds of its consumers via digitalization is not enough as they would have to transform their human relationships too [5]. Digital transformation requires companies to rethink about how they interact with their customers including sales, marketing and service. Companies often find it difficult and troublesome in putting a hybrid system of human and digital collaboration into practice. The objective of this study is to find out a relationship between the satisfaction level of customers and the various digital interfaces which they use in order to enable companies to create an optimized working set of customer relationship management including both technology and human interaction.

II. REVIEW OF LITERATURE

One of the best ways to view customer satisfaction as a result of fast-growing digital innovations is to look into banking and financial services industry as it contains the widest range of services for the customers along with one of the fastest changing technology structures. The research conducted by Cajetan Ikechukwu Mbama, Patrick Ezepue, LyubaAlboul and Martin Beer in the field of customer relationship in the banking sector was done in order to examine managers' perceptions towards digital banking's (DB) effect on customer experiences taking in consideration the banks' financial performance[6]. The research was done by taking reviews from senior manager on the impact of digital banking on the impact on consumer experience and financial performance. The research showed that The attributes affecting DB experience are as follows: service



quality, functional quality, perceived value, service customization, service speed, employee–customer engagement, brand trust, Digital Banking innovation, perceived usability and perceived risk. They affect customer satisfaction, experience, loyalty and the financial performance. The findings suggested a number of important attributes to consider in order to improve both the Digital Banking customer experience and the company's financial performance. They show the relevance of an employee–customer interaction, DB experience, value proposition service personalization and quality service offerings which will have strong implications for improving interactive marketing along with Digital Banking design.

Shifting its focus from their primary operations, as competition intensifies and operational costs increase putting pressure on yields, airlines all over the world need to understand the significant importance of the secondary revenues and how they improve the profitability of an airline. Because of new opportunities, for the now connected and digitally-savvy passengers, destination is longer of much importance, i.e. getting from point A to point B, but instead how the airline makes them feel welcomed all across the journey. In order to boost the experience of the travelers, companies have to look for the ideas to drive value even faster where technology building is an even bigger and greater engagement which would lead to increase in profits[7]. Taking into consideration the fact that majority of the passenger book their tickets online or using their mobiles, companies are now working to offer a customizable set of travel plans.

In the study conducted by Muslim Amin on the topic of the internet banking service quality and its impact on e-customer satisfaction and loyalty, the results implied that all the four dimensions which are - organization of the site, personal needs of the customer, user friendliness, and the website efficiency and working are all distinct constructs. The results also indicate that the internet banking service quality which consists of the above four dimensions has an appropriate reliability and each dimension has a significant positive relationship with internet banking service quality. The efficiency of banking website is the one of the most important aspect for internet banking service quality[8]. The research thus found that the relationship between internet banking service quality, e-customer satisfaction and e-customer loyalty are significant. It therefore implies that due to a higher level of internet banking service quality, the e-customer satisfaction tends to improve which consequently leads to an increased e-customer loyalty and therefore, a lower intention of the customer to terminate a relationship with the bank.

The study highlights the various characteristics of the FMCG products which are often characterized by low involvement requirement, with low product differentiation and

where customers take comparatively less time in their decision-making process as these products are majorly being purchased by consumers' out of their habit. Therefore, marketers should make sure that they create high brand awareness in order to invoke the presence of their brand consumer's mind. Based on this assumption, marketers should take into consideration the effectiveness, strengths and the power of the new methods of communication. Furthermore, the discussed benefits of new methods of communication such as e-mails, social networking, search engine optimizations, etc. are more than the traditional methods which were used[9]. Thus, FMCG manufacturers can enhance their brand awareness along with product differentiation efficiently by using these new interactive techniques. Moreover, the previously used traditional methods of interaction are becoming old as they are not able to fulfil all the requirements of today's consumers' and marketers' needs. The traditional methods still have a number of advantages of their own as they are considered to be more reliable and credible but on the other hand, they need a constant push strategy and only create a one-sided communication. Moreover, they are not easily measurable as it is difficult for marketers to evaluate how effective a particular campaign was and what exact changes are required in the future. Though many FMCG manufacturers have not yet realized the benefits and effectiveness that comes with these new methods of communication, it is the reason why they still have not accepted to use these methods, otherwise these online methods of communication are able to generate a greater number of customized messages. Also, by using these interactive methods, marketers could also focus on their target markets and could save the extra cost which they pay in mass communication.

The focus of marketers will be to work with customers who will be treated as co-creators to build value-in-use. Therefore, it puts pressure on the market research methods used which must evolve from their current focus on objective analysis, that is validity towards interactive collaboration, that is usefulness. Those marketers who have both the desire and skills required to lead a collaborative Action Research work will be able to balance a number of roles as an expert, a consultant and a co-researcher, along with the knowledge needed to carry out traditional market research activities[10]. In today's economy, where the customers are the most important and the most active participants, innovation does not stop at new product development or line extensions which are often refined through detailed qualitative and quantitative testing. AR techniques enable any market researcher to engage more effectively with its customers by treating them as co-creators of innovative solutions.

The initial study indicates that popular apparel firms in Europe are focused less on advanced customization and



mining, lifestyle connection and marketing, and community interaction, and more on fundamental commerce efficiency, communication, context and help, and content depth functionality, resulting in limited customer relationship management on the Web sites. To compete more effectively for an increased market share, the clothing companies need to invest more into innovation on their websites[11]. In other words, the clothing sites are effective in commercial interaction, facility for dialogue, guiding the consumer, and in information. Such functionality enables the initiation of relationship. It was observed that proper customization and intelligent personalization of recommended products and services of customers were not available on the websites.

Customer relationship management activities employed by the clothing retail shops include customer service, loyalty program, customization for customer, personalization and customer rewards program. The study was able to find out that clothing retails shops use a number of channels which try to solve specific needs and requirements of its customers. These channels include the use of e-mails, voice call centers, lettersonline chats as well as online sites[12]. The retail garments and apparels industry is highly diverse all around the globe. In less developed countries like Zimbabwe, retail firms still rely upon electronic mails, voice call facilities, traditional letters and text messaging whereas in developed countries like in Europe, they are able higher levels of technologies for example highly interactive websites.

An efficient hybrid customer interaction system needs to consider all the strategic, organizational and system related areas. Channel convergence (strategy) is an idea which concentrates on the combination of various stationary and electronic/mobile channels. For example, in the banking industry, digitization and proximity to customers are two factors which do not exclude each other. In the future, hybrid products are expected to extend physical proximity to emotional proximity[13]. Thus, channel convergence aims to merge the electronic/mobile with the various stationary channels, therefore, connectingboth the digital and the physical elements. Process convergence (organization) on the other hand gives the idea that customer processes and the companies' CRM processes should be integrated. From an organization's point of view, these two aspects are seen as key factors for an efficient hybrid customer interaction. Technology convergence (system) gives the concept where single devices and single applications merge with one another. This implies to the possibility that every service can be used with any of the stationaries, mobiles or wearable devices. Therefore, for this too, hybrid customer interaction has to rely on a system of integrated devices and applications.

Focusing on the market information processing literature and the relationship management streams, the authors have conceptualized and measured the relational information processes and many organizational routines that are often critical for customer relationship management (CRM)[14]. The authors in their research have examined the key drivers and outcomes of many relational information processes and the role which technology plays in successfully implementing CRM with the help of data collected from a diverse range of sample of firms. The results of the research show that the relational information process plays a key role in enhancing the customer relationship performance for a company. Thus, by moderating the scope of relational informational processes on the customer relationship performance, the technology which is used for CRM would perform a very crucial role for a company. On the other hand, if not used in a correct fashion, there may be situations where the use of such CRM technologies, might not always lead to the desired results expected by the company in relation to customer performance outcomes.

In a research conducted by Sunil Mithas, M.S. Krishnan and ClaesFornell about the impact of customer relationship management tools on the overall customer satisfaction stated that CRM application affect the level of customer knowledge as and when they are well integrated into the supply chain, i.e. when firms are willing to share more information with their supply chain partners which resulted in an improvement in the customer satisfaction. The research also stated the mediatory role by customer knowledge while improving the customer satisfaction along with the importance of an integrated supply chain for a greater customer knowledge[15]. The research thus contributed to the empirically valid theory by synthesizing findings from the information systems and marketing literature and by analyzing the effect of organizational variables on the many CRM investments.

III. METHODOLOGY

A. Problem Statement

The review of existing literature in this field is based highly from a one-sided perspective which highlights many uses and advantages of digitalization but does not take into account the other aspects of this changing technology. A deeper study reveals that few factors could impact the adoption of technology by a customer which are not covered in the completed researches. The researches while focusing on the usage of technology, along with the advantages and the disadvantages which is derived from it to the customer fail to focus on the importance of the human element in the field of customer relationships as they tend to provide an equal and opposite force to the technological innovations. While previous researches focus on the benefits which the customers

enjoy or the problems they face or might face after using technology as a source of interaction with companies, this study focuses on the level of adoption rate of technology and draws relationships between the adoption rate and the satisfaction rates.

B. Objectives

- To identify the acceptability levels of technology by consumers.
- To identify how an optimized working set of technology and human interactions could be created in the field of consumer relationships.

C. Hypothesis

H_0 : There is no relationship between the level of digital interaction and the satisfaction level of the consumers after using the digital interfaces.

For testing of the hypothesis, the acceptance level by the customers will be considered as the dependent variable, whereas the level of digitalization accepted by the customer will be considered as the independent variable. Both these variables would be quantified by using weights for an easy comparison between the two.

D. Data Collection and Sampling

For the testing of the hypothesis, the research includes a survey of 104 people who were in the age-group of 15-60. The people in this age group are frequent purchasers and often use technology as a means of purchase. The area selection is done on the basis of the availability of technology present. Thus, Tier1 and Tier 2 cities are considered while taking the survey.

The questionnaire was structured into two different parts. The first part was focused upon determining the level of digital interaction which a customer is accustomed to, whereas the second part was focused upon the determination of the level of satisfaction which the customer derived.

E. Statistical Tools Used

Basic tool that were applicable for the study is correlation and regression analysis to find out dependency of one variable on another. In this case, the factors of change were evaluated against level of adoption to find out the results. Basic software like Microsoft Excel and SPSS were used to draw relations between the variables determined. The transcribed responses were fed into the system and results were drawn accordingly.

IV. ANALYSIS AND INTERPRETATION

A. Descriptive Statistics

1) *Level of digital interaction*: Table I shows the levels of digital interaction for the total sample from their usage of different digital tools. It can be seen from the data that the overall level of interaction is 2.56 which states that the level of digital interaction is above the normal rate (2.5), which therefore signifies that the population concerned regularly comes in contact with the digital channels used by the companies.

TABLE I LEVEL OF INTERACTION

| | Min | Max | Mean | St. Dev. |
|---|-----|-----|-------------|--------------|
| Level of use of technology and computer interface while communicating with a brand | 1 | 4 | 2.74 | 0.9 |
| Preference of calling customer service or contacting through online portals. | 1 | 4 | 2.48 | 1.05 |
| Level of use of digital interface in a brick-and- mortar store | 1 | 4 | 2.22 | 0.92 |
| How often does the respondents respond to an online survey sent through an e-mail | 1 | 4 | 2.09 | 0.88 |
| Level of usage of augmented reality while purchasing | 1 | 5 | 2.98 | 1.05 |
| Level of frequency of coming in contact with a pre-recorded message in customer service | 1 | 4 | 2.89 | 0.88 |
| Level of usage of technologies like RFID and live tracking | 1 | 4 | 2.55 | 0.93 |
| Overall | | | 2.56 | 0.997 |

Also, it can further be identified from the data that the highest level of digital interaction by the sample is with the function of customer service by way of pre-recorded messages (2.98), whereas the lowest level of digital interaction by the population is with the function of research by way of filling up of online surveys (2.09).

The standard deviation derived from the data can be seen as a basis of measurement for the consistency of the channel used. Thus, as seen in the descriptive analysis, both online surveys and pre-recorded messages have the least standard deviation (0.88) which further implies that the response that a company would receive by using these digital channels would be the most consistent. On the other hand, augmented reality and online customer

forums have the highest standard deviation (1.05) which implies the response which the company receives from these channels would be far less consistent.

2) *Level of Satisfaction*: Table II shows the level of satisfaction which is experienced by the total sample population after using the various digital interfaces. It can be seen from the study that the average level of satisfaction of the total sample is 2.23 which is slightly below the normal rate, which signifies that the population hasn't accepted the change of digitalization.

TABLE II LEVEL OF SATISFACTION

| | Min | Max | Mean | St. Dev. |
|---|-----|-----|-------------|-------------|
| Comfortableness while interacting with a company's digital support system | 3 | 9 | 3.26 | 0.69 |
| Requirement of a salesperson at a store | 1 | 3 | 1.93 | 0.82 |
| Choice between trying on the clothing or using augmented reality | 1 | 4 | 1.8 | 0.76 |
| Favorability of the product if available online | 1 | 3 | 2.19 | 0.85 |
| Whether tracking services have made online purchasing reliable | 1 | 3 | 2.48 | 0.72 |
| Whether digital interface have made products more accessible | 2 | 5 | 3.92 | 0.94 |
| Which is more personalized – digital interface or human contact | 1 | 3 | 1.66 | 0.75 |
| Comparison of decision-making time in physical stores online channels. | 1 | 3 | 1.8 | 0.76 |
| Whether online platforms sole post-purchase issues correctly | 1 | 3 | 2.02 | 0.79 |
| Whether simplicity has been reduced with digital platforms | 1 | 3 | 2 | 0.82 |
| Which adds more value – technology or human contact | 1 | 3 | 1.77 | 0.69 |
| Level of satisfaction if there is complete automation | 1 | 8 | 1.92 | 0.78 |
| Overall | | | 2.23 | 1.02 |

Also, it can further be identified from the data that the level of satisfaction is highest when the products are made available on online forums which makes them more accessible to the consumers (3.92). On the other hand, the consumers are the most dissatisfied because of the fact that digital platforms do not provide personalized services (1.66).

The standard deviation of the data can be seen as the measurement of the consistency of the satisfaction levels of the consumers by using different digital interfaces. As seen in the data, the lowest standard deviation is for aspect of value addition and the degree of comfortableness while using digital interfaces (0.69), which further states that the satisfaction levels would be consistent. On the other hand, the highest standard deviation is noted for the consumer's viewpoint of whether digital forums have made the products more accessible (0.94), which further states that the satisfaction levels would not be consistent.

B. Pearson's Correlation Coefficient Test

Correlation and regression will be used in the analysis in order to determine the overall change in the level of satisfaction in relation with the level of digital interaction of the consumers. Thus, the two variables that would be used will be- a) averages of the satisfaction levels and b) average level of digital interaction.

The correlation test shows a value of 0.53 as shown in Table III, which denotes a moderate degree of positive relationship between the two variables. This states the fact a high degree of digital interaction by a consumer is associated with a high degree of customer satisfaction.

C. Linear Regression Test

The regression test was conducted by taking the level of digital interaction as the independent variable and the satisfaction level as the dependent variable. A R-squared value of 0.28 gives the explanation that a significant part of the variation in the dependent variable is caused due to the corresponding changes in the independent variable. The test would further conclude that the predictor variable 'level of digital interaction' explains a 28% of variance in the level of satisfaction. Thus, the Null Hypothesis is rejected.



TABLE III LINEAR REGRESSION

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|------------|-----------------------|--------|
| C | 1.467 | 0.121 | 12.065 | 0 |
| Interaction | 0.296 | 0.046 | 6.369 | 0 |
| R-squared | 0.286 | | Mean dependent var | 2.229 |
| Adjusted R-squared | 0.279 | | S.D. dependent var | 0.269 |
| S.E. of regression | 0.228 | | Akaike info criterion | -0.092 |
| Sum squared resid | 5.289 | | Schwarz criterion | -0.041 |
| Log likelihood | 6.748 | | Hannan-Quinn criter. | -0.071 |
| F-statistic | 40.571 | | Durbin-Watson stat | 2.286 |
| Prob(F-statistic) | 0.00000 | | | |

V. CONCLUSION

Overtime, the choices of consumers are changing. The requirement of today's customers is a convenient and fast working digital customer relationship. With time, the digital customer interface will increase in importance due to the various benefit which it provides. Instead of only online, the digital customer interface will manifest itself in the offline world. Thus, a digital interface will become the basis of the modern customer relationship, partly because that is what the customer wants and partly because it strengthens the impact of the companies.

'Digital' will lead the world. But at the same time, it will soon absorb the characteristics of being a commodity. The world 'digital' as a distinguishing factor will eventually become obsolete. This is because when every company has succeeded in creating a quick and efficient digital customer relationship, the digital factor will no longer be a differentiating element. It will simply become the universal basis for the customer relationships. Companies will need to be extremely creative to make difference with its digital customer relationships. Thus, the digital transformation of customer relationship also requires a human transformation of that relationship.

As customer processes become increasingly digitalized, the question of the importance of human element comes into effect. It is imperative that as digitalization increases, the human contact will diminish. People will eventually become a scarce resource in the customer relationship. Human interface will still be able to make the difference when the digital interface becomes a commodity. This would lead to the purely

digital interface becoming excessively rational. The important factor which will distinguish the human factor from the digital equation would be the emotional element which it provides. The research conducted in fact stated that the level of satisfaction is always less than the level of digital interaction even if the digital channels are working perfectly. The customer relationships of the future will be both digital and human where innovation is still needed in both these dimensions simultaneously.

VI. IMPLICATIONS OF THE STUDY

This study can be used to derive the following implications and suggestions in order to optimize the customer relationship management:

- Companies should build a comprehensive model, where digitalization should be enabled in order to increase the value to the customers.
- Companies should try to develop a hybrid model of customer relationship where both the elements (digital and human) and balanced and which synchronizes with the existing business model of the company.
- Companies should focus upon those digital channels of marketing with which its customers interact the most in order to bring out the optimum satisfaction levels.

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