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A Study on Customers' Perception and Marketing Effectiveness of Proximity Marketing Communications on NFC and SMS-CB Enabled Mobile Phones in USA

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Abstract

Purpose of the research was to explore the role of proximity marketing communication of local retailers on GSM mobile phones and how does it contributes to customers' shopping experience and influence their perception towards the latest state of the art technology like Near Field Communication (NFC) and Short Message Service-Cell Broadcast (SMS-CB) in brand positioning and message credibility. Analysis were done with sample size of 300 and with the help of 20 statements related to thematic perception on proximity marketing for exploring the marketing effectiveness of proximity marketing communications on NFC and SMS-CB enabled mobile phones and their message authenticity on a five point scale. For analyzing the research data, both qualitative and quantitative research techniques were employed extensively. During data analysis, it was established that retailers which were adopted proximity marketing with credible messages in their communication strategy could easily attract the large number of customers. Respondents of the study were more aware of various local retailers products frequently advertised through the proximity marketing. The result of the multiple regression showed that overall model for Marketing Effectiveness of proximity marketing communication yielded a significant statistic (F=51.972, p<0.000) and adjusted R2=0.617. it was proved that proximity marketing message content and its relevancy to weekly shopping, Latest information on new product arrival, price and brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones, proximity marketing message credibility, authenticity and trust upon the retailer and Assurance were the significant antecedents of marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones.

Keywords: Proximity marketing communication; Near Field Communication (NFC); Marketing Effectiveness; SMS-Cell Broadcast (SMS-CB); Proximity marketing message

Introduction

The focus of the study was to analyze the customer/s perception on proximity marketing by retailers in the area chosen for the purpose of the study. Proximity marketing is the localized wireless distribution of advertising content associated with a particular place. Transmissions can be received by individuals in that location who wish to receive them and have the necessary equipment to do so. Distribution may be via a traditional localized broadcast, or more commonly is specifically targeted to devices known to be in a particular area. The location of a device may be determined by a cellular phone being in a particular cell, a Bluetooth or WiFi device being within range of a transmitter, an Internet enabled device with GPS enabling it to request localized content from Internet servers and a NFC enabled phone can read a RFID chip on a product or media and launch localized content from internet servers. Communications may be further targeted to specific groups within a given location. Communications may be both time and place specific. Uses of proximity marketing include information (web links on local retail outlets), gaming and social applications, and advertising.

Proximity marketing is the latest state of the art technology in mobile marketing communication based on four type of proximity marketing device with the prospective customers used in their daily life. They are working based on Bluetooth based systems, Wifi based systems, NFC based systems and GSM based systems. Bluetooth, a short-range wireless system supported by many mobile devices, is one transmission medium used for proximity marketing. The process of

J Mass Communicat Journalism, an open access journal ISSN: 2165-7912 Bluetooth based proximity marketing involves setting up Bluetooth "broadcasting" equipment at a particular location and then sending information which can be text, images, audio or video to Bluetooth enabled devices within range of the broadcast serve.

To obtain the optimal user experience with Bluetooth Marketing, the Bluetooth system must be able to automatically recognize phone models and deliver the proper content automatically. Some businesses choose to utilize multiple proximity marketing platforms to cater to different popular models of smart phones. Wifi based systems used in proximity marketing are systems capable of detecting certain signals periodically emitted by any electronic devices equipped with WiFi or Bluetooth technology, and the subsequent use of gathered information to detect the position or presence of, and/or flows of information to and from, said devices, in a statistical or aggregate form. This technology is used in a manner equivalent to other systems, such as Radio-frequency Identification (RFID). The continuously increasing use of smartphones and tablets has fueled a boom in WiFi tracking technology, especially in the retail environment. Such technology can

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Page 2 of 10

be used by managers of a physical business to ascertain how many devices are present in a given area, and to observe or optimize business marketing and management.

Retailers are also looking at Near Field Communication (NFC) as a cost effective method by which the retailers can engage their customers with private labels and national brands. A number of retailers have already started using NFC to enhance the shopping experience like Casino in France and Vic in Holland. Proximity marketing Strategy using NFC Technology has been widely adopted in Japan and uses 'pull' rather than 'push' marketing allowing the consumer the choice of where and when they receive marketing messages. There are a number NFC-enabled phones entering the market spurred by NFC mobile wallet trials globally. NFC wallets include the Google Wallet and ISIS (mobile payment system). While mobile payment is the driver for NFC, proximity marketing is an immediate beneficiary in market.

Another option of sending proximity marketing communication on Mobile phone via SMS. It SMS relies on GSM 03.41 which defines the Short Message Service-Cell Broadcast (SMS-CB). It allows advertisement messages to be broadcast to all mobile users in a specified geographical area. The system enables special offer texts to be sent to the phone. Here the authors screened customers perception on bait advertisement (seems to be), Proximity advertisement along with regular advertisements. The parameters adopted were message credibility and marketing effectiveness of such exercises among the respondents who participated in the study in USA. The authors focused here only the marketing effectiveness of proximity marketing communication based on NFC and CB enabled mobile phones among respondents for the purpose of the study.

Proximity marketing is the fast growing communication industry segment that is transforming the integrated marketing communication with an eye on customization for every global citizen. According to the Groupe Special Mobile Association (GSMA) data report [1], in all over the world, there are almost 7.8 billion SIM card connections and out of which 57 per cent are smartphones. The GSMA Mobile Economy series predicted 5.9 billion subscribers, 5.05 billion mobile internet users, 1.29 billion 4G customers, 25.1 billion Total connections by 2025. The contribution of the mobile phone sector to world GDP would increase from USD 3.6 trillion in 2017 to USD 4.6 trillion in 2025. The GSMA report projected a bright future as mobiles market would experience a massive growth in mobile application, data, voice call and Internet usage. It may be noted that the greatest advantage of proximity marketing is that retailers can connect with customers through proximity advertisement even without Internet or VPN connections.

In short, various Mobile technologies, Apps and Platforms provided opportunities for customers to buy products and services as per their choice and convenience [2]. For retailers that utilized proximity marketing, presented opportunities that increased their sales and profit in the short and long run. Many researchers claimed that proximity marketing provided a huge benefit for an organization in terms of their brand equity, brand recall, customer connectivity and message credibility. Therefore, this study examined the role of proximity marketing communications on NFC and SMS-CB enabled mobile phones extensively by the retailers and customers perception on their message credibility which in turn would reflect on the marketing effectiveness and Point of sale in the area/outlet chosen for the purpose of the study in USA.

The Study

It can be seen that mobile phone connected with internet service

are invariably used by the retailers as their media vehicle. Hence the Mobile marketing communication came into existence. However the marketing effectiveness of mobile marketing communication posed a host of problems due to lack of standardization of mobile phones coupled with massive number in quantity, screen size, picture quality/ resolution and technology. The search for better options with high marketing effectiveness lead to proximity marketing communications on NFC and SMS-CB enabled mobile phones. Out of 264 million North American regions internet subscribers 3G and 4G technologies contributed 24 and 47 percent respectively in 2017. Again, GSMA forecasted the potential of touching 328 million subscriber bases with penetration rate of 80 percent in 2025 as against the bench marked penetration rate of 73 per cent in 2017. Hence it is suggested that customers with or without the support of physical stores can contribute various companies bottom lines in a least costly yet most profitable manner. This study was focused more on middle income group with annual income of USD 1.5 to 3.5 lakh and screened their perception towards their message credibility and perception of retailers proximity marketing communications/advertisements. Generally, higher levels of education and personal income correspond to more favorable perceptions towards proximity marketing communications on NFC and SMS-CB enabled mobile phones and shopping online. Increased exposure to technology also increases the probability of developing favorable attitudes towards new technology based marketing and new age shopping channels [3].

The fundamental reason for this study was how far retailers utilized the new age marketing communication channels for connecting with their profitable customers effectively with credible offers and valuable messages. Further 20 percent of the customers contribute 80 per cent of the profit of any business in USA. However, it is widely accused local retailers for bait advertisement in USA for their unethical business practices [4]. It can be seen that Bait advertising is an unethical advertising technique that involves luring the customer in with a promise of a sale or an inexpensive item they may be interested in, and once capturing their attention, the proximity advertiser changes the scheme by making the product unavailable and then directing the consumer to a like product that is more expensive. Retailers will offer the pseudo sale either in an on proximity advertisement and this is illegal and banned in USA. However, authors screened such messages that appeared to be in the nature of bait advertisement during peak business and shopping periods for the purpose of the study.

Definition of variables

Marketing effectiveness is the measure of how effective a given marketer's go to market strategy towards meeting the goal of maximizing their marketing spending to achieve positive results in both the short- and long-term. It is also related to Return On Marketing Investment (ROMI). This Value can be significantly enhance through proper go to market communication strategy [5]. At the program level marketers can improve their effectiveness by managing and executing each of their marketing campaigns better. It's commonly known that consistency of a Marketing Creative strategy across various media (e.g. TV, Radio, Mobile, Print and Online), not just within each individual media message, can amplify and enhance impact of the overall marketing campaign effort [6].

A growing area of interest within (Marketing Strategy) and Execution are the more recent interaction dynamics of traditional marketing (e.g., TV or Events) with online consumer activity like Social Media [7]. Here the case in point is proximity marketing communication of retailers on NFC and SMS-CB enabled mobile

phones. It may be noted that marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones is taken as dependable variable for the purpose of the study. While predicting the marketing effectiveness of proximity marketing communication, it could be seen that sales revenue from both online and instore purchases coupled with communication impact as reflected in their perception towards the proximity marketing message content, authenticity, credibility and trust upon the retailer [8]. Here the authors considered proximity marketing communication was a part of business promotion and a customer service wherein retailers were informing the arrival of their products and services with latest offers/discounts, persuading and motivating the customers to go for shopping. Hence the elements of weekly shopping came into the research scenario as well.

Further respondents preferred both online and offline/instore purchases. According to Zeitmal, Berry and Parashuraman the criteria used by consumers in evaluating service quality can be consolidated under five broad categories. They are (1) Tangibles means appearance of physical elements, (2) Reliability means dependable, accurate performance, (3) Responsiveness means promptness and helpfulness, (4) Assurance means competence, courtesy, credibility and security and (5) Empathy means easy access, good communication and customer understanding [9].

Here the final action of the proximity marketing communication on NFC and SMS-CB enabled mobile phones is taken by way of considering shopping experience of the respondents online and offline into consideration and included six dependable variables for the purpose of the study. They were (1) Latest information on new product arrival, price and brands (2) proximity marketing message content and its relevancy to weekly shopping, (3) proximity marketing message credibility, authenticity and trust upon the retailer (4) Assurance and (5) Responsiveness.Again the authors defined Responsiveness means propmtness and helpfulness during shopping online and instore. In simple terms it is defined as the willingness to help customers and provide them with prompt services. Finally, Assurance means competence, courtesy, credibility and security both online and instore [2].

Relationship between the variables and the proximity marketing communication effectiveness on NFC and SMS-CB enabled mobile phones

With the quickly separate of the digital devices environment, people are more likely to use their mobile phones, computers, tablets and other digital devices to gather information. In other words, the digital environment has a growing effect on consumer's mind and buying behaviour [10]. In an online shopping environment, interactive decision may have an influence on aid customer decision making. Each customer is becoming more interactive, and though online reviews customers can influence other potential buyers' behaviors [11-13]. Hence the perception of customers towards the latest state of art technologicalship marketing communication tool such as proximity marketing on NFC and SMS-CB enabled mobile phones is gaining momentum among shoppers, retailers and researchers globally.

In order to study the relationship among the five independent variables selected for predicting the marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones, multi-item scales were used. A multi-item scale consists of a number of ratings combined into a single value. Multiitem 103 scales are used to represent complex psychological constructs that can't be summarized in a single question. Multi-item measures are more reliable and less volatile than single-item questions. As a result of this increased stability, multi-item scales make excellent benchmarks [9,13-16]. The internal consistency of the independent variable is an important test of reliability. Reliability test is used to assess the internal consistency of summated scale where several items are summated to form total score. One measure of internal consistency is Cronbach alpha. Cronbach's alpha accounts for all possible two-way splits [9,13]. The Cronbach alpha <0.6 indicates poor reliability. The Cronbach alpha >0.7 indicates more reliability [9]. Table 1 gives the Cronbach alpha values for the constructs.

It is seen from the Table 1 given below that the values are in the range 0.733 to 0.943 which indicate that the instruments are reliable. Among the effective integrated marketing communication strategies, proximity marketing communication on NFC and SMS-CB enabled mobile phones was considered as useful tool which assisted the retailer in connecting with their valuable customers effectively. As the authors observed from the responses, most of the customers preferred to buy products and services online instead of purchasing from a physical store. In this regard, it is essential for the retailer to focus on the message credibility of proximity marketing communications and shoppers experiences while shopping online and offline [2].

Research process

Authors employed both quantitative and qualitative research methods for exploring the marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones and its contribution to customers' experience during their weekly shopping. The rationale behind using these techniques was that both of them helped developing deeper understanding related to the purpose of the research. NFC devices considered for transmitting proximity communication message were the GSM smartphones through SMS-CB which received the retailer's message even without Internet and VPN connections.

Further, inductive research approach would helped the authors to carry out the research investigation and research process by gathering profile information for the active customers initially from the local retailers and Google analytics and then segregated the sample for the purpose of the research. Furthermore, by making use of both primary and secondary data on active customer profiles and RFM analysis constituted rationale behind the basis of drawing the sample size with adequate representation from the population for the purpose

S no	Independent variable	Cronbach alpha		
1	Latest information on new product arrival, price and brands	0.793		
2	Proximity marketing message content and its relevancy to weekly shopping	0.781		
3	Responsiveness (propmtness and helpfulness both online and instore)	0.733		
4	Proximity marketing message credibility, authenticity and trust upon the retailer	0.943		
5	Assurance (competence, courtesy, credibility and security both online and instore)	0.892		

Source: Sample Survey December 2017

Table 1: Cronbach alpha values of the variables.

of the study. Again, authors adopted descriptive research design for the purpose of the research. The rationale behind this selection was to represent Activities, Interest and Opinion (AIO) along with purchase intentions of the respondents included in the research would be helpful for deeper understanding of American middle class and their regular/routine shopping habits [2]. Thus, the research design opted for the study was supporting for extracting a valid outcome in line with objectives set for the purpose of the study.

In this study authors adopted convenient sampling method for collecting the data from 300 respondents through online survey backed with emailing the questionnaire. Data analysis assisted in attaining the aim and objectives of the study and provided a valid conclusion. Here, thematic perception of proximity marketing was undertaken for the evaluation of the respondents and multivariate analysis such as multiple regressions with the use of SPSS resorted for the purpose of the study. Primary data were obtained from customers who visited the local retail stores in the region chosen for the study by means of administering the structured questionnaire online. The survey questionnaire consists of two parts: part-A and part-B. Part-A consists of questions connected to respondent's socio-economic and demographic profile. The responses are measured using nominal scales. Part-B consists of the items for customer experience, each dimension of the determinants and the moderators. All items are measured on 5-point Likert scale (5 "strongly agree" to 1 "strongly disagree").

Testing of the preliminary questionnaire was carried out in March 2017 using convenience sample of 150 respondents. The internal consistency of the instrument was tested through reliability analysis using Cronbach's alpha. All reliability results were in the range 0.733 to 0.943 which exceeds 0.70 limit of acceptability (Table 1). The respondents who were part of the pilot study did not participate in the final survey. The population to be considered for this study consists of customers between the age group of 19 and 60, who have shopped local retail stores in the region chosen for the study within 12 months. Therefore, the population can be defined as active retail shoppers. Respondent for the study is a person who does shopping within a year in the region chosen for the study.

Convenience sampling, a method of non-probability sampling is opted for this particular study. Invitations to participate in the survey were emailed with online link to the selected respondents. Then respondents were contacted online chats and social media posting and were requested to complete the questionnaire on time. Sufficient time was given and the completed questionnaire. The main online survey was completed with 350 responses and 300 responses were found to be complete after applying Outliers. More responses were obtained in the month of November and December 2017 with the follow up of email requests and voice and text message reminders of the survey.

Data that had collected online were divided into two sections – data regarding the demographic profile of the respondents and data regarding the influence of the five variables on the customer's perception on proximity marketing and its message credibility. The collected data were coded in an SPSS spreadsheet and a simple statistical analysis such as frequency distribution and percentage was carried out along with multiple regression model. SPSS-16 was used for the analysis of data. Reliability, the degree of consistency between multiple measures of a particular construct is tested using Cronbach's alpha coefficient. Large tolerance values and variance inflation factors were observed, indicating no issues with multi-collinearity [2,16-18].

This study was conducted in the cross section of USA comprising

of Adams County, Alexander County, Brown County, Champaign County, Clinton County, Douglas County, Effingham County, Ford County, Hamilton County, Jackson County, Lake County, Madison County, Scott County, Washington County Woodford County, Illinois, Indiana, Chicago city, California, Santa Clara and San Jose Airport area. The sample size selected for the study was 300 and the questions were emailed to the respondents. Convenient sampling method was resorted to the purpose of the study. The period of the study was eight months starting from May 2017. Nearly 95 percent of the chosen customers were completed the survey with 1 to 3 reminders within 3 months of posting the questionnaire. Non-response of the respondents was compensated by posting the questionnaires to the new customers from the same population till the authors received the adequate sample size.

The study was conducted among students and professionals across different nationalities that were stayed in three States of USA in the areas mentioned above for the purpose of the research. The respondents were chosen for the study based on their propensity to travel, shop, or eat in the nearby destinations, retailer stores (Food, Grocery, Garment, Book and Electronic) and restaurants during the study period based on RFM model and Google Analytics data of the region. RFM model explain Recency (when was the customer visited the outlet last), Frequency (how often the customer visit the shop in a month) and Monetary (what was the average bill in terms of value and no. of items purchased) habits of the customers based on the purpose of the study [19-25].

Ethics need to be considered while carrying out the entire survey research in US context. In addition, it is important to focus ethically while requesting/approaching the customers for participating in the survey. The purpose and aim of the research should be made clear to them without an iota of doubt. Also, their profile information would be used for the purpose of this study and kept confidentially as per the USA academic research community guidelines. It may be noted that no respondents were forced to take part in this survey and the respondents of the survey accepted authors' declaration and privacy statement by honoring US laws and respondents' rights. Apart from this, the information which was gathered from secondary sources cited accurately at the end of the paper by honoring Section 107 of the Copyright Act of USA under fair use. It assisted the authors to meet the aim and objectives of the research successfully by drawing meaningful inferences, useful conclusion and valid suggestions/policy implications without any violations of USA laws and breaches of research ethics.

Problem statement: In the book What Sticks, authors Rex Briggs and Greg Stuart [26] calculated that marketers waste 37% of their marketing investment. Reasons for the waste include failure to understand underlying customer motivations for buying, ineffective messages and inefficient media mix investment .So the marketing effectiveness of marketing communication is very important for MROI. In the proximity marketing the retailer can estimate the mobile phone, tablet, laptop and DTP computer density in the target area and design marketing communication based on the usage pattern and users' preferences of mobile phone. So in this technologicalship marketing, the possibility of wastage of funds, miscommunication to non-target groups, over communication of marketing message are eliminated [27].

In fact, proximity marketing is highly focused and it is a form of one to one marketing and customized marketing communication for everyone. Further, the scarcity of scholarly research on the

Page 5 of 10

customers' perception on proximity marketing communication (on NFC and SMS-CB enabled mobile phones) and mobile marketing call for a theory-based framework to examine marketing effectiveness holistically [28,29]. The research problem, therefore, is to compound the perception of weekly shoppers towards proximity marketing communication of retailers on NFC and SMS-CB enabled mobile phones and its marketing effectiveness in USA.

Research questions: Among the effective integrated marketing communication strategies, proximity marketing communication on NFC and SMS-CB enabled mobile phones were considered as the most cost effective way of connecting the valuable customers directly for promoting and marketing products and services of retailers. As the authors observed from the responses, most of the customers preferred to buy products and services online instead of purchasing from a physical store. In this regard, it is essential for the retailers to focus on the message credibility of proximity marketing communication and customers experience during shopping online and instore.

Customer considered switching between e-channels, because they were mainly influenced by the comparison with offline shopping, involving growth of security, financial and performance-risks. In other words, and a customer shopping online that they may receive more risk than people shopping in stores. Trust is another factor to be considered in this regard [30-32]. There were three factors might influenced their buying decision, firstly, people could not examine whether the product satisfied their needs and wants before they received it. Secondly, customer might concern at after-sale services. Finally, customer might afraid that they could not fully understand the language used in e-sales. Based on those factors customer perceived risk might be significantly influenced their online purchasing behavior [33,34]. Hence the major research questions addressed during the study were as follows:

(i) What were the customer perceptions of proximity marketing on NFC and SMS-CB enabled mobile phones for marketing products and services of local retailers in USA?

(ii) How does retailer's proximity marketing communication on NFC and SMS-CB enabled mobile phones benefit costumer?

(iii) What were the impact of message credibility, authenticity and trust upon the retailer in the proximity marketing communication on customers experience during their weekly shopping in USA and

(iv) Identify the significant independent variables which contribute the higher marketing effectiveness and MROI for proximity marketing communication based on NFC and SMS-CB enabled mobile phones.

Research objectives: This study was based on exploring the significant factors which influence the effectiveness of Marketing Communication on NFC and SMS-CB enabled mobile phones and its impact on customers' experience during shopping. Major Objectives of the study were as follows:

(i) To evaluate the customers' perception on message credibility, authenticity and trust upon the retailer in proximity marketing communication on NFC and SMS-CB enabled mobile phones in USA.

(ii) To analyze the benefit of proximity marketing communications for active retail shoppers in USA and

(iii) To determine the determinant of marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones in USA.

Significance of the study

Proximity marketing is the latest entrant in the technology based marketing communication, which is gaining momentum in USA. This is the next step in mobile marketing as the numbers of people who are depending on mobile phones are on the rise. This also poses a different and unique problem in achieving the marketing effectiveness of mobile marketing communication. This is because; the type and range of mobile phones launched in the market always vary in their technology, screen size and resolution. So, many of the mobile marketing communication messages failed due to lack of standardization in screen size and technology of mobile phone. proximity marketing is the only solution to this problem as the proximity marketing communication on NFC and SMS-CB enabled mobile phones can be customized with its screen size and image resolution. Also the retailer can estimate the mobile phone, tablet, laptop and DTP computer density in the target area prior to the communication setting. The message setting in proximity marketing is based on the usage pattern and users' preferences of mobile phone. So the idea of one to one marketing and customized marketing for everyone becomes practically demonstrated successfully through this proximity marketing communications.

Now many retailers are keen to setup their footprints in proximity marketing in the area chosen for the study. Retailers have placed much emphasis on message credibility, authenticity and trust aspect in their marketing communications. Hence trust is another way driving customer's loyalty and relationship building in technology driven marketing environment in USA. Customer's purchase intension based on rational expectations, and additionally impacts on emotional trust. Moreover, those expectations can be also established on the product information and revision from others [34-37]. The easy way to reach out the profitable customers of local retail shop is proximity marketing.

This study can make a significant contribution to understand the customer perception on trust upon the retailer, authenticity and message credibility in proximity marketing communication. Amidst, intense competition, local stores offered a wide array of choices for the customer to shop with and hence there arises a need for studying the customer perception of cost effective, most convenient and the state of art technology proximity marketing communication and its marketing effectiveness [2,38]. The study findings can provide an insight into significant factors which influence better marketing effectiveness of the marketing promotions based on NFC and SMS-CB enabled mobile phones.

Obtaining and sustaining a competitive advantage in retailing, specifically in US retail environment today sets the challenge to determine one differentiating variable that will position local retail stores differently from industry leaders like Wal-Mart Inc (having USD 500.04 billion sales revenue annually with 2.3 million associates and 270 million weekly shoppers in their stores in 2018) in their minds. Technology based marketing is the only solution for retailers to find out their sustainable competitive advantages and proximity marketing communications on NFC and SMS-CB enabled mobile phones is the only solution available to them during the study period.

Limitations of the study

Limitation of this study is the non-probability sampling technique used to collect data from the respondents. Usage of a non-probability sample compromises the external validity of a study to a large extent. Therefore, it is advisable to repeat this study with a probability sampling technique. The period of the study was only 8 months and

J Mass Communicat Journalism, an open access journal ISSN: 2165-7912

Page 6 of 10

with limited resources at disposal of the authors was also considered as limitation of the study. The study was confined only to local retail stores of 3 Western States of USA. Therefore, it is advisable to repeat this study with more states from other parts such as northern, southern and eastern states of USA.

Data Analysis and Interpretation

Following three sub sections described various analyses with research implications.

Consumer demographics and shopping habits

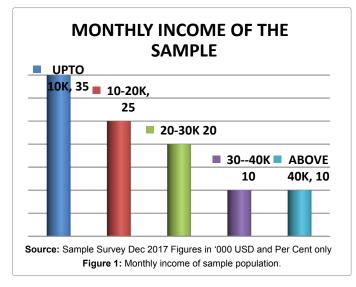
Gender wise, majority of the respondents of the study were males (85%). A majority of the respondents were between the age group of 19-29 years (50%). Married respondents were slightly more when compared to the other categories (52%). Respondents of the study were well educated since majority of them were PG Diploma holders, Post Graduates, professionals, PhD holders and above (80%). A majority of the respondents were drawing a salary of nearly USD 10,000 per month (35%). Nearly 53 percent of the families had 3 members in their family.

Majority of the families (70%) had two earning members in their family. The occupation-wise, majority of the respondents were employed in Private organizations (85%) (Figure 1).

It is implied from the Figure 1 given above that respondents with monthly income upto USD 10,000 dominated the sample with 35 per cent followed by respondents with USD 10,001-20,000 (25%). Male respondents of the study predominantly visited branded retail stores and female respondents visited local stores, supermarkets, hypermarkets and specialty stores. The respondents of the study were employed mainly in Private organization and most of them visiting retail stores on a weekly basis. The period of association with the proximity advertiser/brand was longer (mainly 18 months to 60 months). They preferred shopping with their friends and family members whenever it was necessary and usually spend nearly half an hour at the retail outlets during shopping at the weekends.

Detailed analysis of consumer Perception on proximity marketing communications on NFC and SMS-CB enabled Mobile phones in USA

It was analyzed from the data collected during the study that 4% of respondents of this study ignored the Proximity marketing



communications. On the other hand, 49% only read the proximity marketing messages in their mobile phone while 32% of them read and open the link or call the number after receiving the proximity marketing communication. Therefore, it is important for the retailers that their proximity marketing communication should be attractive and grab the attention of customers. If marketing communication which customers receive a message, Cell Broadcast or notification on the NFC and SMS-CB enabled mobile phones, it should be more interesting so that people go through the link or follow up with the marketing communication. People who are not interested in buying the products and services, they do not focus on proximity marketing communication and try to avoid them.

Compared with conventional shopping, the information environment of virtual shopping is enhanced by providing additional product information such as comparative products and services, as well as various alternatives and attributes of each alternative and so on [35,39]. It was analyzed during the study that 79% of respondents are influenced by the proximity marketing communication which they have viewed on their NFC and SMS-CB enabled cell phone. On the other hand, 10% of respondents influenced through the Email Ads while 8% from Television Ads. The radio and newspaper Ads affects further rest of the respondents with 2% and with 1% respectively. Therefore, it was analyzed that proximity marketing communication highly influenced the customers purchase intent and got their attention very efficiently during their shopping.

Online stores are usually available 24 hours a day, and most of the respondents have Internet access both at work and at home. Visiting a conventional retail store requires travel or commuting and costs such as gas, parking, or bus tickets, and must typically take place during business hours [18]. In this context the authors explored the respondents' perception on the marketing effectiveness of proximity marketing communication. Here it was observed that 29% of respondents who stated that upto 25 percent of the time customers viewed Proximity marketing communication and followed through with purchasing the products. On the other hand, 40% of them were of the viewed that they viewed proximity marketing communication and follow through with purchasing up to 35% of their weekly shopping requirements. Moreover, 15% of the respondents agreed that they viewed Proximity marketing communication and follow through with purchasing of products through the using of their mobile phone up to 75% of their weekly shopping requirement. It means that People were more attracted toward the Proximity marketing communication. If the proximity marketing communications were attractive then, it would influence the customers' shopping intent and make them easily purchase products and services from the stores. Also, if the proximity marketing communication were engaging, customers would simply make a purchase s products and services from the retailer. Additionally, local stores can effectively promote their products and services on the social networking sites through attractive offers during lean periods.

It was inferred from the study that proximity marketing communications play significant roles with respect to keep up-to-date about products and services that many of the customers are interested in. Therefore, local stores need to provide upto date information about their products and services through proximity marketing communications so that it can attract and retain a large number of profitable and loyal customers. Respondents of the study welcomed proximity marketing communications on their NFC and SMS-CB enabled mobile phones. This is because it helps them in making purchase decisions and finalizing shopping list quickly. Up to date

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information help them to search and compare their offers with brand and price and also screen the message credibility and chance of bait advertisements.

The popularity of online shopping continues to erode sales of conventional retailers. It showed that 33% respondents were strongly agreed and 41% of respondents were agreed that proximity marketing communication enabled them to search and compare different products and services. Hence, it shows that proximity marketing communication is effective as it plays a significant role in making purchase decisions. It is so because respondents of this survey are using it for making a comparison in different company's product in terms of cost, quality and delivery time. Then they make a decision of purchase. On the other side, it also helps them in getting knowledge which retailer is providing an attractive offer on products and the way they are responding to the customers. These facilities encourage customers to make a purchase easily from their NFC and SMS-CB enabled mobile phones.

Attractive proximity marketing communication with unique content helps retailers pull customers to respond to their offers and messages. Further, 51% of respondents were strongly agreed, and 13% of them were only agreed that by enabling NFC and SMS-CB from their mobile phones for proximity marketing communication have made them more informed about brands while shopping online and offline. It may be noted that 62% of respondents spend more than one third of their active time in a day on social media from their mobile phones. Further 31% of respondents were agreed that they spend maximum of 30% of their day on the mobile phone. The result, explained that mobile phones become one of the important needs of people around the world. With the use of social media, they can communicate with their friends and be informed and knowledgeable about a product which they want to buy. The new features of mobiles are helpful for the customers to make a purchase through handsets and websites. Therefore, it is essential for the retailers to lure the customers through posting attractive proximity marketing communication.

Relationship between the various determinants and the marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones

In order to study the relationship between the various determinants and the marketing effectiveness of proximity marketing communications on NFC and SMS-CB enabled mobile phones, multiitem scales were used [40]. The descriptive characteristics of the data for the proximity marketing communication were given below in the Table 2.

The Regression model and its related Beta (β) estimates as shown in Table 2 given below indicate that Latest information on new product arrival, price & brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones, proximity marketing message content and its relevancy to weekly shopping, proximity marketing message credibility, authenticity and trust upon the retailer, Responsiveness and Assurance are significant in predicting marketing effectiveness of the proximity marketing communication (Table 2).

Regression analysis

The generalized equation for regression is

 $PME = a + \beta \ 1LPB + \beta \ 2PCR + \beta 3RES + \beta 4PAT + \beta 5ASS$

Where

PME is Marketing Effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones (Dependent variable of the study)

LPB is Latest information on new product arrival, price & brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones (Independent variable-1 of the study)

PCR is proximity marketing message content and its relevancy to weekly shopping (Independent variable-2 of the study)

RES is Responsiveness (propmtness and helpfulness both online and instore: Independent variable-3 of the study)

PAT is proximity marketing message credibility, authenticity and trust upon the retailer (Independent variable-4 of the study)

ASS is Assurance (competence, courtesy, credibility and security both online and instore : Independent variable-5 of the study)

The following Hypotheses were tested:

H1A: Latest information on new product arrival, price and brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones will significantly influence the marketing effectiveness communication.

H2A: Proximity marketing message content and its relevancy to weekly shopping will significantly influence the marketing effectiveness.

H3A: Responsiveness will significantly influence the marketing effectiveness of the proximity marketing communication

H4A: Proximity marketing message credibility, authenticity and trust upon the retailer will significantly influence the marketing effectiveness.

H5A: Assurance will significantly influence the marketing effectiveness of the proximity marketing communication

The result of the multiple regression using enter method as in Table 3 given above and Table 4 given below, showed that overall model for Marketing Effectiveness of proximity marketing communication yielded a significant statistic (F=51.972, p<0.000) and adjusted R2=0.617, explained by proximity marketing message content and its relevancy to weekly shopping, Latest information on new product arrival, price & brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones, proximity marketing

Variable	Sample Size	Mean	Standard Deviation
1. Latest information on new product arrival, price and brands in the Proximity marketing communications on NFC and SMS-CB enabled mobile phones (LPB)	300	4.8036	0.99820
2. Proximity marketing message content and its relevancy to weekly shopping (PCR)	300	4.6651	0.95611
3. Responsiveness (RES)	300	4.8097	1.03213
4. Proximity marketing message credibility, authenticity and trust upon the retailer (PAT)	300	4.9378	1.00763
5. Assurance (ASS)	300	4.6305	1.06852

Source: Sample survey December 2017

 Table 2: Descriptive statistics of variables under study.

Page 8 of 10

message credibility, authenticity and trust upon the retailer and finally Assurance (Table 4).

Model significance: Proximity marketing is the emerging format of mobile marketing communication in the Technological ship marketing among retailers in USA. Focusing on Marketing Effectiveness of proximity marketing communication can give an edge to the retailer in terms of MROI and brand positioning. proximity marketing message content and its relevancy to weekly shopping, Latest information on new product arrival, price and brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones, proximity marketing message credibility, authenticity and trust upon the retailer and Assurance are the significant antecedents of marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones. It is important to mention here that Responsiveness was not considered significant determinants in the marketing effectiveness of proximity marketing communication. This is because of US law brings a lot of protection for privacy of customer data and the rights of consumers while shopping online and offline.

As hypothesized, latest information on new product arrival, price and brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones is significantly influencing marketing effectiveness of the proximity communication message (β =0.320, p<0.05) thus supporting the hypothesis H1A and it is the strongest determinant of marketing effectiveness of the proximity communication message. Proximity marketing message content and its relevancy to weekly shopping is significantly influencing marketing effectiveness of the proximity communication message (β =0.276, p<0.05) thus supporting the hypothesis H2A. Proximity marketing message credibility, authenticity and trust upon the retailer is significantly influencing marketing effectiveness of the proximity communication message (β =0.147, p<0.05) thus supporting the hypothesis H4A. Assurance is significantly influencing marketing effectiveness of the proximity communication message (β =0.173, p<0.05) thus supporting the hypothesis H5A. The outcomes are summed up in Table 5

The estimating equation for predicting marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones can be constructed as

PME=0.48+0.17 ASS+0.32 LPB+0.15 PAT+0.28 PCR.

The regression residue distribution is checked for normality by using Histogram and Probability plot chart and found to be satisfactory as in Figures 2 and 3. The regression variate is found to meet the assumption of normality.

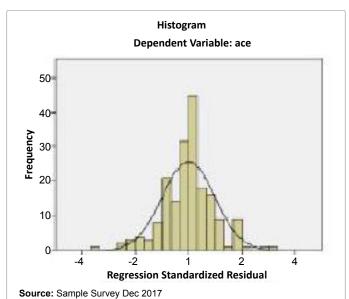


Figure 2: Residue distributions for marketing effectiveness of proximity marketing communication on NFC and SMS-CB enabled mobile phones.

Model	Sum of Squares	df Mean Square F		df Mean Square		df Mean Square F	
Regression	144.005	4	18.001	51.972	0.000		
Residual	84.856	299	0.346				
Total	228.861	303					

Source: Sample Survey December 2017

Table 3: Summary of regression model for determinants with mean square residual values.

Model	R	R Square	Adjusted R Square	Std.Error of the Estimate
1	0.793	0.629	0.617	0.58852

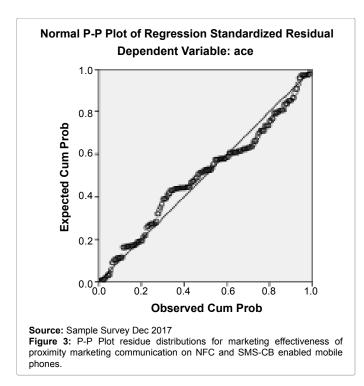
Source: Sample Survey December 2017

Table 4: summary of regression: model for determinants and proximity marketing communication effectiveness on NFC and SMS-CB enabled mobile phones.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Constant	a 0.477	Std. Error 0.230	Beta	2.078	0.039
Proximity marketing message content and its relevancy to weekly shopping.	0.261	0.052	0.276	5.041	0.000
Latest information on new product arrival, price and brands in the Proximity marketing communications on NFC and SMS-CB enabled mobile phones.	0.306	0.058	0.320	5.274	0.000
Responsiveness	-0.038	0.066	-0.040	-0.576	0.565
Proximity marketing message credibility, authenticity and trust upon the retailer	0.135	0.065	0.147	2.080	0.039
Assurance	0.156	0.057	0.173	2.750	0.006

Source: Sample survey December 2017

Table 5: Predictor effects and β estimates for determinants on marketing effectiveness of the proximity communication message.



Major Findings and Important Discussion

Creating a superior shopping experience through technology enabled proximity marketing communication on the mobile phone has been gaining increasing attention from the retailers. However, there has been a shortage of academic research on this topic. This research has tried to provide a complete picture of the marketing effectiveness of the proximity marketing communication and its determinants among retail customers in USA. The demographic profile showed that the respondents were relatively younger, well educated, with a good income at their disposal. This clearly paves the way for their exposure to the Technologicalship marketing, online shopping and depended on Internet for gathering new products information.

Respondents of the study welcomed proximity marketing communications on their NFC and SMS-CB enabled mobile phones. It was analyzed during the study that 79% of respondents are influenced by the proximity marketing communication which they have viewed on their NFC and SMS-CB enabled cell phone. It may be noted that 51% of respondents were strongly agreed, and 13% of them were only agreed that by enabling NFC and SMS-CB from their mobile phones for proximity marketing communication have made them more informed about brands while shopping online and offline. Further 40% of them were of the viewed that they viewed proximity marketing communication and follow through with purchasing up to 35% of their weekly shopping requirements.

The regression result for the various determinants on marketing effectiveness of proximity marketing communication showed support for four out of five hypotheses set for the purposes of the study. The effects of the various determinants namely proximity marketing message content and its relevancy to weekly shopping, latest information on new product arrival, price and brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones, proximity marketing message credibility, authenticity and trust upon the retailer, Assurance and Responsiveness were examined using linear regression. The model has a good fit as the p value is significant at 5% level of significance. The adjusted R2 value 0.617 depicts that 51.972% variation in the dependent variable, Marketing Effectiveness of proximity marketing communication, is accounted by the determinants namely proximity marketing message content and its relevancy to weekly shopping, latest information on new product arrival, price and brands in the proximity marketing communications on NFC and SMS-CB enabled mobile phones, proximity marketing message credibility, authenticity and trust upon the retailer and Assurance.

Page 9 of 10

Implications of the Study

This study contributes to the volume of modern literature on determinant of marketing effectiveness of proximity marketing communications on NFC and SMS-CB enabled mobile phones in the US scenario. The study findings will enable retailers, managers, salespersons and researchers to gain a better understanding of the factors that lead to creating a superior shopping experience for the customers on their NFC and SMS-CB enabled mobile phones which in turn will create a better MROI and higher marketing effectiveness for their technology enabled proximity marketing communication campaigns in USA.

A complete understanding of the various determinants that were used in this study would enable the retailers in USA to create a memorable experience for the customer while shopping online or in the outlet. The study findings contribute to the volume of modern literature on determinant of marketing effectiveness of proximity marketing communications for techno savvy shoppers in the USA scenario. The managerial contribution of the study provides a base for the modern retailers who want to understand the key drivers of predicting marketing effectiveness of Proximity marketing communications on NFC and SMS-CB enabled mobile phones and if required, they would modify their Proximity marketing communication strategies accordingly to provide a better customer experience during online and instore shopping in USA.

Summary and Recommendations

It was also noticed from the findings of the study that there were an upcoming trend of proximity marketing on NFC and SMS-CB enabled mobile phones in USA. This is because customers were getting benefits from the mobile phones and proximity marketing communications as they can comfortably purchase any products and services from any place and at any time. The findings of this study helped in developing deeper understanding of the factors that influenced the marketing effectiveness of proximity marketing communications, its contribution to Marketing Return on Investment (MROI) and the way it influenced customers purchase decisions in USA. It was also concluded from the findings of the study that most of the respondents were using the mobile phone for shopping based on the proximity marketing messages transmitted on NFC and SMS-CB enabled mobile phones. Implementation of new technology like NFC and SMS-CB in the mobile phone helped companies to market their products to techno savvy customers and they can easily shop online or instore.

It was concluded from the finding of the study that through effective proximity marketing, retailers were able to build and retained a positive sustained relationship with their customers. Many retailers under study were using proximity marketing communications for the purpose of communicating their latest product arrival and ongoing offers/discount news with their customers. By predicting marketing effectiveness retailers can improve their MROI and foster a favourable customer attitude and better perception towards their products and proximity marketing communication.

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Finally, this research study focused on the perception of the customers of three western states of USA. Hence the study findings reflected the perceptions of the active retail population of three states only. In summary, customers' responses resulting in positive customer feedback on the latest technogicalship marketing in the form of proximity marketing communication on their NFC and SMS-CB enabled mobile phones in a customized way add a new experience and being seen as real and sustainable differentiator between competing retailers under study. Further, proximity marketing is a relatively new phenomenon in USA and hence more research is required to understand the customers' perception of proximity marketing communication that would help the retailers to comprehend the MROI and Customer Relationship Management practices in USA.

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Page 10 of 10

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