THE EFFECTS OF AGE FACTOR IN MOBILE CUSTOMER RELATIONSHIP MANAGEMENT ON CUSTOMER BUYING BEHAVIOUR

MOBİL MÜŞTERİ İLİŞKİLERİ YÖNETİMİNDE YAŞ FAKTÖRÜNÜN MÜŞTERİ SATIN ALMA DAVRANIŞINA ETKİLERİ

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ABSTRACT

Mobile Customer Relationship Management (mCRM) is a philosophy and a strategy that focuses on building better customer, increases revenues and profitability, reduces costs and increases customer loyalty. This research intensifies on customer buying behaviour in Mobile Customer Relationship Management, which has become a new management concept in the world.

In this study the application of mCRM of service sector in Turkey was investigated, specifically Gloria Jean's Coffees Turkey, the giant in coffee industry with around 1 million of mobile users, has been taken as a reference. This work focuses on customer buying behaviour and influences created by the customer's mobile application features and the applied promotional culture.

In addition, the relationship between Gloria Jean's Coffees Turkey's mCRM analytical data and customer buying behaviour has been developed. The application of this study is also recommended in various sectors.

Keywords: Customers Relationship Management, Mobile Customers Relationship Management, Customer Behaviour, Customer Buying Behaviour, Mobile Applications.

ÖZET

Mobil Müşteri İlişkileri Yönetimi (mMIY), daha iyi müşteri oluşturma, gelirleri ve karlılığı artırma odaklanan, maliyetleri düşüren ve müşteri sadakatini artıran bir felsefe ve stratejidir. Bu araştırma, dünyada yeni bir yönetim konsepti haline gelen Mobil Müşteri İlişkileri Yönetimi'nde müşteri satın alma davranışı üzerinde yoğunlaşmaktadır. Bu çalışmada Türkiye'de hizmet sektörünün mMIY uygulaması incelemiştir, Türkiye yaklaşık 1 milyon mobil kullanıcı olan kahve endüstrisindeki dev Gloria Jean's Coffees Türkiye referans alınmıştır. Bu çalışma, müşterinin mobil uygulama özellikleri ve uygulamalı tanıtım kültürü tarafından oluşturulan müşteri satın alma davranışı ve etkilerine odaklanmaktadır.

Ayrıca, Gloria Jean's Coffees Türkiye'nin mMIY analitik verileri ve müşteri satın alma davranışı arasındaki ilişki geliştirilmiştir. Bu çalışmaların uygulanması çeşitli sektörlerde de önerilmektedir.

Anahtar Kelimeler: Müşteriler İlişki Yönetimi, Mobil Müşteriler İlişkileri Yönetimi, Müşteri Davranışı, Müşteri Satın Alma Davranışı, Mobil Uygulamalar.

1. INTRODUCTION

We have the concept of Customer Relationship Management (CRM) today, as economists have been striving to maximize the value of profit and consumer benefits for many years. Theorists in this area still talk about dual creation of firm performance and customer's value (Rogers 2005).

Up to the 1970s, production-based thinking in the management world was, in fact, acceptable for enterprises to provide the equipment and finances needed for production. With the rapid increase in technological developments and the number of companies in late 1970, Customer Relations Management (CRM) applications, which have been adopted in Western countries since the 1980s, have grown rapidly in businesses.

CRM applications are a strategy developed in order to improve the relations that enterprises use to keep their current customers, gain new customers and provide the maintenance of all customers (Swift, R. S. 2001). At this point it would be useful to define the CRM. CRM can be defined as a
strategy that adopts customer-oriented culture that places customer concept throughout the enterprise. CRM is a concept that aims to establish long-lasting customer relationships and accordingly to profitability. This concept sees a bridge between marketing strategies and information technology.

In recent years, a new understanding of management has been developed in the world, especially in the United States. Now, enterprises don’t need customers to tell them what they need or want any more, because they already know. Their wishes should be considered as individuals. Customers want to feel that they are important for enterprises and that enterprises care about them. For an enterprise, this perception of management is under the values that create customer buying behaviour. In the light of this method presented by the technology, enterprises can now foresee what customers "did", "why they did it" and "what they are going to do next", and their strategies have come to be placed on this basis. Thus, at the right time, it becomes possible to offer to the right customer, the right product, the right channel and the right price. The new management approach that makes these possibilities doable is the Mobile Customer Relationship Management (mCRM).

Taking into account that the rapid economical, technological and cultural changes that have taken place nowadays which have considerable effects on business performances, our study reveals the following question in the light of literature review:

• In mobile customer relationship management, how can we relate age factor to customer buying behaviour?

2. LITERATURE REVIEW

2.1. Mobile Customer Relationship Management

First of all, it is beneficial to directly understand and apprehend mCRM which has become a trend today. If a traditional definition needs to be established, CRM is a business strategy that establishes a systematic approach based on integration with customers in an individual market. mCRM is a form of management that establishes an individualized, interactive value-added relationship between both parties at the business and consumer levels. It presents possibility to enterprises to get good returns at the point of customer acquisition, customer buying behaviour and satisfaction. For this reason, enterprises can learn more about customer needs and preferences in the light of individualized data and create a strategy with a lifelong value perception by providing them possible solutions.

mCRM has created an increasing demand for enterprises with features such as mobility and locality along with technological innovations in mobile devices (Mirbagheri, S. and Hejazinia, M. 2010). In addition, personalization of content and services has been the main reason for enterprises to use CRM applications to tracking customers at different time intervals, providing and delivering content and services where and when they are needed to the customer (Deans, 2014).

In the marketing literature, attention to mobile service diversity is divided into mobile marketing and, most importantly, mCRM. This is because mobile media has many valuable and unique features such as increasing, maintaining and improving customer buying behaviour, retaining existing customers and improving relationships with them, thanks to wide access, low costs, fast feedback, constant availability and personalized customer relationship management.

These reasons have created an unavoidable competitive environment for mCRM businesses. The increasing competition factor has caused the adoption of the mCRM concept to be considerable. With the rapid rise of mobile technology in our lives, businesses can easily find the needs of their customers and generate solutions accordingly. Customers knowing their own value and prefer trustworthy businesses.
mCRM is a comprehensive management approach that focuses on the customer life cycle and customer buying behaviour after sales, together with the fact that customer relationship management is not just a sales management with the campaign created for consumers. Because of this, mobile technologies have become attractive by complementing the existing channels in traditional customer relationship management. It is noteworthy that the advantages of mCRM, which allows customers to be individualized, are the ability to communicate effectively with customers directly and instantaneously, customer buying behaviour response analysis to be measurable.

2.2. mCRM and Customer Buying Behaviour

Smartphones have become an important part of our daily lives in less than 15 years. Smartphones are no longer a luxury product in our daily lives and have become one of the most used everyday consumer goods worldwide.

Despite the increasing importance, many countries in this area still have a lack of research work. This study aims to determine the buying behavior of the shopping profile in mobile applications in customers of different age groups.

Understanding the nature of customer buying behavior has been an important component in the investigation of marketing for a significant period of time. If organizations can predict customer strategies based on marketing strategies and influence them where appropriate, it is important that they understand the needs and motivations of their customers and their expectations.

Murray, K. B. (1991) pointed out that, in spite of recent efforts in the field of service marketing and the development of conceptual models and managerial paradigms, less attention has been paid to understanding consumer buying behaviour. Especially, services in search behaviour during the purchasing decision process. Even though there is an important literature on customer purchasing behaviour, the focus of attention in this literature is on customer loyalty. The key task, therefore, is to define whether the existing main purchasing theories can also be applied to customer buying behaviour.

Most conceptual studies have focused on addressing consumer purchasing behaviour as a decision-making process that consists of a number of discrete but interconnected stages. Probably the best example of this is the Engel-KollatBlackwell model that separates the decision-making process into five stages (Engel et al., 1991): problem identification; information searching; evaluation of options; purchase decision; and post-purchase behaviour. A similar approach was adopted by Nicosia's (1966) consumer decision-making model and also by the Howard-Sheth (1969) model. There is some evidence that similar approaches are used in organisational purchasing behaviour: for example, Robinson et al. (1967) "Get a Grid" model that analyses purchasing decisions over a series of consecutive "procurement stages" for different purchasing situations; Like the models Webster and Wind (1972) and Sheth (1973).

In addition, Assael (1987) distinguished four types of consumer purchasing behaviour, such as complexity, mismatch, habit and diversity seeking, depending on the degree of the customers' participation and differences between the brands. There are many variables that shape the consumer's decision-making process, including individual differences, environmental impacts and psychological processes (Engel et al., 1995).
2.3. Study Hypothesis

Technological advances in the field of information and communication encourage the use and development of new shopping methods. Moreover, these technological developments cause a rapid growth due to the fact that they can buy products/services without going out of store and traveling to retail outlets (Sharma and Sheth 2004; Thompson 1997). The increasing use of mobile in recent years is a clear example of the growth and importance of the system and the opportunities it offers as an independent sales channel and therefore has a special interest from researchers.

There is a lack of literature on the processes of adopting mobile commerce and analysing the factors that affect the shopping behaviour of the users who buy products/services (Coursaris and Hassanein 2002; Luarn and Lin 2004; NG-Kruelle et al. 2002; Wu ve Wang 2004; Yang 2005).

When analysed according to mobile shopping age variable, it was observed that it is more effective in young age group consumers. Young people are more favourable towards technological change (Modahl 2000; Mulhern 1997; Schiffman and Kanuk 2003). The most important factor in this is the consideration of the individual's comprehension capacity in the face of rapid development and complexity of technologies (Mulhern 1997; Peterson et al. 1989; Rogers 2003; Wotruba ve Pribova 1995). Young people also have hedonistic and pragmatic motives for the use of internet and mobile phones, and think that technology is an alternative shopping channel with information, communication, entertainment (Bordeau et al. 2002). The attitude towards innovation and these differentiated needs is one of the main reasons for the growth of personal computers and mobile phones in young individuals (Modahl 2000).

Trocchia and Janda (2000), have argued that the resistance in the process of change along with new technologies and the need to have a visual and/or touch experience of the product to be purchased before purchase are the main reasons for mature consumers not to shop.

Hypothesis: The impact of MCRM on customer purchase behavior varies according to the age group of the customers.

3. RESEARCH METHODOLOGY

3.1. People, process and technology

The mCRM strategy addresses three key dimensions of organizations as strategy, philosophy and technology as a whole. Moreover, the success of the mCRM strategy depends on the right balance
between these three key dimensions. Only these three sources effectively provide high levels of customer satisfaction, customer retention and customer loyalty in enterprises (Rigo et al., 2016, Navimipour & Sultani, 2016, Khan & Kamal, 2015).

3.2. Research Design

In order to collect and evaluate the quantitative data of the research, from research methods, pre and post-test model with control group was used. In the hypothesis developed during the study, the effects of mCRM on customer purchasing behavior and the reflected differences between these effects according to a demographic variable of mobile customers' data based on their age group have been evaluated in this context, the impact of the mCRM purchasing behavior model presented in Figure 3 was investigated.

Paired-Samples “t” test was used to analyze the data. First, a reliability statistical test was applied to examine the reliability of these variables and the alpha model was used.

3.3. Studied Group

The study generally consisted of mobile customers of Gloria Jeans' Coffees which have more than 1,200 branches in 50 countries around the world and 67 branches in the Republic of Turkey.

Using the mobile application of Gloria Jean's Coffees which is published in the Apple Store, Google Play app store with 67 branches across Turkey and about 1 million mobile users, a base of 30,220 people was selected using stratified random sampling with experimental and control groups determined. 100 people were eliminated because they live in two cities simultaneously. When the determined sample is analysed according to age groups: 6346 subjects were in the range of 24 and below, 9066 people were between the ages of 25-34, 8159 were in the range of 35-44, 3627 were in the range of 45-54, and 3022 were in the range of 54 and over.

3.4. Data Collection Tools

In the study, Mobile application technique was used as data collection tool. After the data of Gloria Jeans’ Coffees mobile application users were selected from the R & D unit of the enterprise with stratified random sampling, experimental and control groups were formed in accordance with the experimental method.

In order to determine whether the experimental and control groups were equivalent, the analysis and selection of the customers according to their attitude towards the enterprise and the frequency of visit were performed in the computer laboratories with mobile application technique and it lasted 3 months.
Following the determination of the experimental and control groups, the frequency of visit of the customers in both groups was observed and then, promotional manipulation intervention was applied to the experimental group and no manipulation was applied to the control group.

After the interventions in the experimental group, the experimental and control groups were analysed in 3, 6 and 9 month periods and the collected data were compared and customer buying behaviour was analysed.

3.5. Data Analysis

In the analysis of the data, sample parried t test was used in the comparison of control and experimental age groups in repetitive measurements. The mobile application used by the customers provided a database in our analysis and allowed us to constantly receive up-to-date data. When the demographic data of the customers were examined, the male participants (50%) and the female participants (50%) were chosen equally and it was thought that this choice would contribute to getting more clear results in gender awareness. When the distribution of the customers by age is examined, it is seen that 21% were in 24 years and below, 30% in the 25-34 range and 27% were in the 35-44 range, 12% were in the 45-54 range and 10% were between 55 and over.

While analysing the data of the visitors selected by stratified random sampling; a hypothesis has been proposed within the sample paried t-test. In T test analysis, two rules which reject the hypothesis are taken into consideration. These are:

- $t_{Stat} < -t_{Critical\ two\-tail}$ or $t_{Stat} > t_{Critical\ two\-tail}$,
- $p < 0.05$ (in fact $p = 0$). The value $P$ is 0 or close to 0.

Paired-Samples "t" test was used to examine the main dimensions and hypotheses. From the mobile application database, with subscribers close to 1 million, 30,220 subscribers, 15,110 control group and 15,110 test group who visited the branches between 1 and 3 times in a month were randomly selected. A total of 30,220 subjects were divided into five age groups as test and control groups and without any promotions applied to the control group, promotional actions were applied to the test group on the mobile application. For the results, regarding a retrospective t0, t1, t2 and t3 time intervals, the numerical data was analysed according to the visiting frequency of customers both in the control and the test groups. The results of the analysis are shown in Tables 1 to 6.

At the time of t0, by measuring customers' visit frequency of pre-test results, the individuals of the experimental and control groups were composed of individuals with similar demographic characteristics. After the first measurement at the time t0, a promotive action has been applied on only the control group at time t2 and then the visit frequency of the customers to the entreprise of both the experimental and control groups have been measured. At the time intervals t2 and t3, no promotive action was applied to the experimental and control group and the measurements were terminated with the final test results at the time interval t3.

The time intervals t0, t1, t2 and t3 were determined as three months and were completed by analysing during 1 year from the past, the visit frequency of the customers in control and experimental group.

4. RESULTS OF HYPOTHESES TESTS

Hypothesis: The impact of MCRM on customer purchase behavior varies according to the age group of the customers.
Table 1: Paried Sample t Test Statistics (18-24 Years Age Group)

<table>
<thead>
<tr>
<th>Cognitive Contradiction Factors</th>
<th>Pair</th>
<th>N</th>
<th>Mean</th>
<th>S.S.</th>
<th>S.D.</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Group</td>
<td>3174</td>
<td>7.46</td>
<td>1,475</td>
<td>3173</td>
<td>0.42</td>
<td>.967</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>3174</td>
<td>7.46</td>
<td>1,679</td>
<td>3173</td>
<td>-143.838</td>
<td>.000</td>
</tr>
<tr>
<td>t1</td>
<td>Test Group</td>
<td>3174</td>
<td>7.87</td>
<td>2,441</td>
<td>3173</td>
<td>-109,400</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>3174</td>
<td>24.28</td>
<td>5,348</td>
<td>3173</td>
<td>-162,878</td>
<td>.000</td>
</tr>
<tr>
<td>t2</td>
<td>Test Group</td>
<td>3174</td>
<td>11.23</td>
<td>3,890</td>
<td>3173</td>
<td>-162,878</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>3174</td>
<td>24.28</td>
<td>5,348</td>
<td>3173</td>
<td>-162,878</td>
<td>.000</td>
</tr>
<tr>
<td>t3</td>
<td>Test Group</td>
<td>3174</td>
<td>11.98</td>
<td>5.483</td>
<td>3173</td>
<td>-162,878</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>3174</td>
<td>35.85</td>
<td>9,497</td>
<td>3173</td>
<td>-162,878</td>
<td>.000</td>
</tr>
</tbody>
</table>

In this study, the frequencies of the visits of the customers of the control and experimental groups were analyzed in the SPSS program with Sample Paried t test at time intervals t0, t1, t2 and t3.

The demographic characteristics of the customers were analyzed as the relation with the age variable. In this context, five different age groups were formed in both control and experimental groups. These age groups were determined as 18-24, 25-34, 35-44, 45-54, 54 and over.

Table 1 shows the Sample paried t test results of the 18-24 age group. When we analysed the values in Table 1, the value of the experimental group customers' visit was Mean = 7.46 in the pre-test result and the Mean test result reached 7.87 in the final test and by providing p <= 0.5. However, when the first and final test results were examined in the control group, it was observed that Mean = 7.46 from Mean = 11.98. When we compare the control and experimental groups, we can say that the frequency of visits of the customers belonging to the experimental group is three times higher than the control group customers.

Table 2 shows the Sample paried t test results of the 25-34 age group. When we analysed the values in Table 2, the value of the experimental group customers' visit was Mean = 7.51 in the pre-test result and the Mean test result reached 32,63 in the final test and by providing p <= 0.5. However, when the first and final test results were examined in the control group, it was observed that Mean = 7.51 from Mean = 13,08. When we compare the control and experimental groups, we can say that the frequency of visits of the customers belonging to the experimental group is about two times and a half times higher than the control group customers.

Table 2 shows the Sample paried t test results of the 25-34 age group. When we analysed the values in Table 2, the value of the experimental group customers' visit was Mean = 7.51 in the pre-test result and the Mean test result reached 32,63 in the final test and by providing p <= 0.5. However, when the first and final test results were examined in the control group, it was observed that Mean = 7.51 from Mean = 13,08. When we compare the control and experimental groups, we can say that the frequency of visits of the customers belonging to the experimental group is about two times and a half times higher than the control group customers.

When we compare Table 1 and Table 2, it is observed that there is a negative decrease in the frequency of visits of both the control and test group customers. The reason of this negative decrease is the age group of the customer.
Table 3 shows the Sample paried t test results of the 35-44 age group. When we analysed the values in Table 3, the value of the experimental group customers’ visit was Mean = 5.85 in the pre-test result and the Mean test result reached 29.00 in the final test and by providing p <= 0.5. However, when the first and final test results were examined in the control group, it was observed that Mean = 5.72 from Mean = 10.67. When we compare the control and experimental groups, we can say that the frequency of visits of the customers belonging to the experimental group is about three times higher than the control group customers.

But when we compare Table 3 with Table 1 and Table 2, it is observed that there is a negative decrease in the frequency of visits of both the control and test group customers.

Table 4 shows the Sample paried t test results of the 45-54 age group. When we analysed the values in Table 4, the value of the experimental group customers’ visit was Mean = 4.25 in the pre-test result and the Mean test result reached 26.26 in the final test and by providing p <= 0.5. However, when the first and final test results were examined in the control group, it was observed that Mean = 4.23 from Mean = 8.39. When we compare the control and experimental groups, we can say that the frequency of visits of the customers belonging to the experimental group is about three times higher than the control group customers.

We compare Table 4 with Table 1, Table 2 and Table 3, similarly it is observed that there is a negative decrease in the frequency of visits of both the control and test group customers.

Table 5 shows the Sample paried t test results of the 54 years and above age group.
Analysing the data retrospectively the five age group subjects by random sampling; We did a two-tail test (inequality). If t Stat < Critical two-tail or t Stat > t, critical two-tail, the null hypothesis is rejected and p = 0; i.e. a very small probability of this result occurring by chance, under the null hypothesis of no difference between the means of customers visiting Gloria Jean's Coffees.

The hypothesis is acceptable, since p < 0.05 (in fact p = 0) and Mean value to be changed for all age groups, it means Gloria Jean's Coffees implementing Mobile Relationship Management has made the customers buying behavior effects changeable with age factor.

Finally, we analysed the values in Table 5, the experimental group 54 and above age group customers' visit was Mean = 3.08 in the pre-test result and the Mean test result reached 23.93 in the final test. When we analysed the values in Table 5, the value of the experimental group 54 and above age group customers' visit was Mean = 3.00 in the pre-test result and the Mean test result reached 6.57 in the final test and by providing p <= 0.5. And we compare Table 5 with the others, the values show us young people are likely to be more prone than older people, so we can say that our hypothesis is supported and proven.

When analysing the visiting frequency in the implementation of the mobile relationship management system for different age group visitors, the age factor showed a tendency to be more favourable for teen age than old age visitors, and the results of the applied mCRM were more successful for teenage group visitors.

5. LIMITATIONS

By taking the Republic of Turkey as sample, our study has been prepared and analysed over one brand operating in the service sector. When the results of the study are evaluated, the applicability of the results, the responses based on the collected data from our study of different brands operating in the other sectors were not analysed.

In addition, new research studies are aimed on what the obtained data could bring as results in different countries including the same brand operating in the same sector. It is expected that people will react differently according to their demographic characteristics. In the light of these responses, country comparison and mobile customer relationship management can be analysed according to demographic characteristics.

6. CONCLUSION

There is a significant technological change in the computer, internet and mobile phone sources that affect the marketing activities of the enterprises. Mobile communication technologies are one of the latest technological developments that enable enterprises to effectively communicate with their target customers, especially with the widespread use of the internet.

These technological developments provide important services that increase people's quality of life. The system is a living, renewing and developing application. Supported mobile operating systems will continue to be adapted to the efficient management of the system, following the understanding of mCRM in enterprises. In addition, it continues to give positive acceleration to customer buying behaviour by providing the most effective communication between customer and enterprises and by reflecting the appropriate and necessary changes and innovations instantly in the system in line with the feedback obtained from the users.

In our study, the incidence of mCRM-based mobile customer adoption by customers and the positive increase in customer buying behavior are accepted by Paired-Samples "t" test results. It has also been observed that mCRM is positively associated with crucial customer buying behaviour components for businesses and that mCRM practitioners can have a direct impact on customers' buying behavior. Mobile applications offered to us via smartphones and tablets, which we have not
reduced in our daily lives and they have become indispensable elements of our lives. Based on these technological developments, mCRM has proven that the goal of managing the results of the analysis of 30,220 customer data belonging to Gloria Jean's Coffeess has been achieved. Through these applications, it will be a very effective and effective method to implement all sectors' mCRM and reach the target customer volume and ensure buying behaviour.

REFERENCES


Peter J.P. (1993). Studied consumer behaviour as a means to improve marketing strategy and to assist product promotion, pricing and channel strategy planning.


