ON THE EVALUATION OF ONLINE PAYMENT SYSTEMS IN TURKEY BASED ON USERS' PERSPECTIVES

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ABSTRACT

In this study, the factors affecting the present and future of payment systems in Turkey together with the technical payment systems are analyzed, and the supported payment systems in Turkey are examined by a survey from the users' perspectives. While the widespread use of smart devices, rapid developments in technology, globalization, improvements in financial areas, the development of commercial and financial activities have led to an increase in domestic and international payment transactions. Consequently, the shopping habits change among many subjects. People's efforts to access information with the fastest, the most practical and the safest are seen as the main reasons for the change of today's world. Merchandising habits also started to show parallel development and change to the internet. The fact that e-commerce can be used with all banks thanks to virtual POSs has further strengthened the link between international e-commerce companies and users. Thus, payment systems became more widespread. The use of payment systems, payment options offered to customers on online shopping sites, campaigns, installments and postponement opportunities has become widespread with the support of credit card security. The need for payment systems has increased due to the fact that people go to a store in their daily routines and see shopping as a waste of time, and nowadays shopping and buy and sell are so easy in online environments. Thus, various payment systems have been initiated. The main purpose of this study is to evaluate the payment systems infrastructure in Turkey from two different users' perspectives. The data gathered via questionnaires in terms of end users who have completed their orders in any e-commerce site using direct payment systems, and the developers who have programming practive on e-commerce sites having integrated payment systems. The statistical results are discussed with analytical evaluations.

TÜRKİYE'DEKİ ÇEVRİMİÇİ ÖDEME SİSTEMLERİ ÜZERİNE KULLANICI PERSPEKTİFİNDEN BİR DEĞERLENDİRME

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ÖZET

Bu çalışmada, teknik ödeme sistemleri ile birlikte Türkiye'deki ödeme sistemlerinin bugünü ve geleceğini etkileyen faktörler analiz edilmiş ve Türkiye'deki desteklenen ödeme sistemleri, kullanıcıların bakış açısıyla bir anket ile incelenmiştir. Akıllı cihazların yaygınlaşması, teknolojideki hızlı gelişmeler, küreselleşme, finansal alanlardaki gelişmeler, ticari ve finansal faaliyetlerin gelişmesi yurt içi ve yurt dışı ödeme işlemlerinde artışa neden olmuştur. Dolayısıyla birçok konuda alışveriş alışkanlıkları değişmektedir. İnsanların bilgiye en hızlı, en pratik ve en güvenli şekilde erişme çabaları günümüz dünyasının değişiminin ana nedenleri olarak görülüyor. Mağazacılık alışkanlıkları da internete paralel gelişme ve değişim göstermeye başladı. Sanal POS'lar sayesinde e-ticaretin tüm bankalarla kullanılabilmesi, uluslararası e-ticaret firmaları ile kullanıcılar arasındaki bağı daha da güçlendirmiştir. Böylece ödeme sistemleri daha yaygın hale geldi. Ödeme sistemlerinin kullanımı, online alışveriş sitelerinde müşterilere sunulan ödeme seçenekleri, kampanyalar, taksitlendirme ve erteleme fırsatları, kredi kartı güvenliği desteği ile yaygınlaştı. İnsanların günlük rutinlerinde bir mağazaya gitmeleri ve alışverişi zaman kaybı olarak görmeleri, günümüzde alışveriş ve alım satımların online ortamlarda çok kolay olması nedeniyle ödeme sistemlerine olan ihtiyaç artmıştır. Böylelikle çeşitli ödeme sistemleri başlatılmıştır. Bu çalışmanın temel amacı, Türkiye'deki ödeme sistemleri altyapısını iki farklı kullanıcı açısından değerlendirmektir. Doğrudan ödeme sistemlerini kullanarak herhangi bir e-ticaret sitesinde siparişlerini tamamlayan son kullanıcılar ve entegre ödeme sistemlerine sahip e-ticaret sitelerinde programlama pratiği yapan geliştiriciler açısından anketlerle toplanan veriler. İstatistiksel sonuçlar analitik değerlendirmelerle tartışılmaktadır.

1. INTRODUCTION

As in the whole world, trade is growing rapidly in our country and its share in our economy is increasing day by day. e-commerce market grew 30% in the past 3 years in Turkey. According to TÜSİAD's 2017 e-commerce report; There are 57.7 million credit card users in Turkey According to BKM's 2016 data; It is stated that two out of every five credit cards are used in internet payments. According to the report of TÜSİAD; 85% of online shopping is done via credit cards, 11% at the door and 4% via money order / EFT method. [1]

Figure 1: Annual Development of Payment Systems

We can say that the shopping habits in our country are shifting towards online environments and card payment. The Interbank Card Center shared that card payments increased from 65 percent in 2015 to 73 percent in 2017. According to the announced statistics, 1 out of every 3-card payment is made with debit cards.[2] As this and similar research shows, e-commerce and online marketing is entering into a growing market day by day as a habit in our lives.

2. PRELIMINARIES ON SUBVEY

In this study, the technical infrastructure of the payment system in Turkey, UI/UX and the evaluation of software developers and 2 separate survey aimed to evaluate various aspects of the operation of the payment system for users alike. The people who answered the software developer's questionnaire were aimed to reach people who could make comparisons among the payment systems that were interested in payment systems from the software industry. For the user's survey, it is aimed to reach people who can make comparisons for payment systems that have previously used various payment systems. As a result of the questionnaire study, the hypotheses established separately for users and software developers and the factors that statistically affect the view of payment systems were evaluated. In the analysis of the data obtained from the research, parametric and nonparametric tests were used with categorical variable statistical analysis. SPSS packet statistics program was used in the analysis. With the help of SPSS, chi-square analysis, anova test analysis and distribution graphics were used. With the widespread use of the Internet with smart devices and turning into an important part of daily life; There have been changes in many areas from usage habits to communication styles. The efforts of people to access information with the fastest, most practical and economical means are seen as the main reason for the change of today's world. Merchandising habits have started to develop and change parallel to the internet. E-commerce can be used with all banks thanks to virtual POSs; It has further strengthened the link between international e-commerce companies and users. As such, although the interest in payment systems is increasing day by day, the number of companies operating in payment systems is also increasing. The need for payment systems has increased due to the fact that people go to a store in their daily routines and see shopping as a waste of time in their existing life rush, and nowadays shopping and buy and sell are so easy in online environments. And so, various payment systems began to be developed. In the last part of the study, results and findings will be included. The questionnaire study was tried to be made sense by linear regression and factor analysis.

3. LITERATURE SURVEY ON COMPARISON OF USERS IN TERMS OF PAYMENT SYSTEM IN TURKEY

The local studies subjects are provided below.
(Mehmet Güngör, Fırat University/2008.) "On the Chi-Square test", Faculty of Arts and Sciences, Department of Mathematics. The study explains sample research and its use on chi-square test.

Eray GÖZENER, Maltepe University 2009/Mobile Payment System. "Examination of how mobile payment systems work and an application", T.C. Maltepe Üniversitesi, Institute of Science, Computer Engineering Department) This study focuses on mobile payment technologies and their future location.

4. STATISTICAL ANALYSES OF THE SURVEY

For our software survey, people who were actively involved in payment systems in business life, and for our user's survey, 35 individuals, who have actively used payment systems, were researched separately. A survey was conducted to determine the contribution of gender, experience and monthly income to the payment systems. 40% of the respondents are women and 60% are men. For developers; There is a statistically significant relationship according to the type of payment in evaluating payment systems. As the type of payment changes, the evaluation of payment systems also

changes. Among the selected payment systems, Masterpass, Payu, and Garantipay were found to be successful, while the most unsuccessful payment system was BKM. There is a statistically significant difference in the evaluation of the payment systems of the software developers according to the experience factor; As experience increases, it is positively affected in evaluating payment systems. There is a statistically significant relationship according to the monthly income factor in the evaluation of the payment systems of the software developers; As monthly income increases, it is positively affected for software developers to evaluate payment systems. There is no statistically significant relationship according to gender factor in the evaluation of payment systems of software developers; gender factor does not differ statistically for software developers. There is a statistically significant relationship according to gender factor in the evaluation of users' payment systems; We can say that men look at payment systems more positively than women. According to the monthly income factor, there is no statistically significant relationship in the evaluation of users' payment systems; The monthly income factor does not differ statistically for users like software developers. 70

Figure 2. Chi-square test result of the first hypothesis for developers

The evaluation of the payment systems of software developers is also the relationship of the payment system. chi-square test result.

Figure 3. software developers' evaluation of payment systems and experience factorAnova tests result for developers

The results obtained according to the experience factor in the evaluation of the payment systems of the developers.

Figure 4. Software developers' evaluation of payment systems and experience factor Anova tests result for developers

Statistical relationship of software developers to monthly income factor in evaluating payment systems.

Figure 5. Distribution of chi-square test comparing payment types based on monthly income for the software developers survey

Figure 6. Chi-square comparing payment types by gender for software developers survey

5. CONCLUSION

In this study; software and UI/UX evaluated the payment system in Turkey, as developers are arranged two separate surveys for both users. With the survey; availability of payment systems, fraud detection, documentation, development environments, live environments, integration process, environment stability, bug solution approaches in bug formation, admin panels, monthly order, user friendliness, activity in social media, whether there have been problems before, promotion definitions, external resource applications and plugins have been evaluated from various aspects such as integration use. As a result of the questionnaire study, with the hypotheses established separately for users and software developers; Statistically, factors affecting the view of payment systems were evaluated. There is a statistically significant relationship according to the monthly income factor in the evaluation of the payment systems of the software developers; As monthly income increases, the evaluation of payment systems is also positively affected. There is a statistically significant difference in the evaluation of the payment systems of the software developers according to the experience factor; As experience increases, it is positively affected in evaluating payment systems. There is no statistically significant relationship according to gender factor in the evaluation of payment systems of software developers; gender factor does not differ statistically for software developers. There is a statistically significant relationship according to gender factor in the evaluation of users' payment systems; men regard the payment systems more positively than women. According to the monthly income factor, there is no statistically significant relationship in the evaluation of users' payment systems. The monthly income factor does not differ statistically for users like software developers. 71 As a result of the evaluation made according to the monthly income status, gender and experience of the users; It has been observed that Masterpass and Payu are more common and more stable, on the other hand BKM is strong in promotion and campaign and more active in social media. GarantiPay's application and instant notification side have been found to be rich. At a glance at payment systems; The view of payment systems in users differs according to gender, not in software developers. According to the monthly income level and experience, the perspective of payment systems differs for both users and software developers.

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