



Türk Yönetim ve Ekonomi Araştırmaları Dergisi Turkish Journal of Management & Economics Research

Yıl: 2023, Cilt: 4, Sayı:1, ss.01-11

Understanding the Concept of User Experience in E-Commerce

E-Ticarette Kullanıcı Deneyimi Kavramını Anlamak

Şule GÖREN Lisans Öğrencisi, Abdullah Gül Üniversitesi sule.goren@agu.edu.tr https://orcid.org/0000-0002-9663-0247

Sevde Ceyda SOLMAZ Lisans Öğrencisi, Abdullah Gül Üniversitesi sevdeceyda.solmaz@agu.edu.tr https://orcid.org/0000-0001-5132-2331

Turna Buse ÖZKARDAŞ Lisans Öğrencisi, Abdullah Gül Üniversitesi turnabuse.ozkardas@agu.edu.tr https://orcid.org/0000-0002-2240-2743

Faruk GÜVEN (Sorumlu Yazar) Dr.Öğr.Üyesi, Abdullah Gül Üniversitesi faruk.guven@agu.edu.tr https://orcid.org/0000-0002-2440-585X Makale Başvuru Tarihi / Received: 15.11.2022 Makale Kabul Tarihi / Accepted: 30.06.2023 Makale Türü / Article Type: Araştırma Makalesi

ÖZET

Anahtar Kelimeler:

Kullanıcı Deneyimi, Eticaret, Kullanışlılık, Güven Müşterilere ve şirketlere büyük avantajlar sağlayan e-ticaret, şirketlerin rakiplerinden farklılaşması ve değer yaratması için tek başına yetersiz kalmaya başladı. Kullanıcı deneyimi kavramına artan ilgi, şirketlerin ürün ve hizmetlerini e-ticaret platformları üzerinden kullanıcılara ulaştırırken bu kavrama dikkat etmelerini beraberinde getirdi. Dinamik bir kavram olan kullanıcı deneyimi (UX), bir müşterinin bir ürün/hizmet ya da sistemi kullanmadan önce, kullanırken ve kullandıktan sonra edindiği algı ve duygular olarak adlandırılabilir. Kullanıcılar bir e-ticaret platformunda hareket ederken platforma giriş, ürün keşfi ve ödeme gibi aşamalardan geçerken platformların güven, kullanışlılık, işlem güvenliği ve işlevsellik gibi faktörleri yaşadıkları deneyimi etkilemektedir. Makalenin amacı, müşterilerin e-ticaret platformlarını kullanırken attıkları adımları ve bu adımlar sırasında yaşadıkları kullanıcı deneyimini anlamaktır. Ayrıca, bir müşterinin kullanıcı deneyimini etkileyen kriterleri anlamak ve bu kriterlerin doğru uygulanmaması sonucu ortaya çıkabilecek sorunları incelemek hedeflenmektedir. Bu potansiyel sorunları tespit etmek için kullanılan metriklerden de makalede bahsedilmektedir. Temel amaç, şirketlerin pazarlama stratejilerini oluştururken kullanıcı deneyimi kavramını göz önünde bulundurmaları gerektiğinin altını çizmektir.

ABSTRACT

Keywords:

User experience, E-commerce, Usefulness, Trust *E-commerce, which provides great advantages to customers and companies, has begun to be insufficient on its own for companies to differentiate from their competitors and create value. Increasing interest in the concept of user experience has brought companies to pay attention to this concept while delivering their products and services to users via e-commerce platforms. User experience (UX), which is a dynamic concept, can be named as the perception and emotions that a customer acquires before, while using and after using a product/service or system. While users move on an e-commerce platform, factors such as trust, usefulness, transaction security, and functionality of the platforms affect the experience they get as they go through stages such as platform login, product discovery and payment. The purpose of the article is to understand the steps customers take while using e-commerce platforms, and the user experience they get during these steps. Moreover, it is aimed to understand the criteria that affect a customer's user experience, and to examine the issues that may arise as a result of not applying these criteria properly. The metrics used to detect these potential issues are also mentioned in the article. The main purpose is to underline that companies should consider the concept of user experience while creating their marketing strategies.*

1. INTRODUCTION

E-commerce is a turning point in the modern business world which can be defined as buying and selling of goods or services through internet networks. This form of trade has drastically changed the habits of both sellers and customers (Bhat et al., 2016). As companies have strengthened and developed their existing businesses through e-commerce, customers have reached the comfort of purchasing products with a single click. Although e-commerce was used as a means of differentiation from other companies at the beginning, it has now become a necessity for almost every company. E-commerce allows various methods from credit card, debit card, Electronic Funds Transfer (EFT) to cash on delivery. In addition to creating value between organizations and individuals which is called as business-to-customer (B2C), e-commerce also allows organizations to exchange value among themselves in a form of business-to-business (B2B) trade. Apart from the companies as professional sellers, customers also leverage e-commerce as a new trade mode. In addition to companies that are professional sellers, consumers also trade among themselves (customer-to-customer, (C2C). The very different forms of trade, sheer number, and diversity of players in these models create a worth investigating chaotic environment. As a result, companies have started to explore new differentiation methods to enhance customer journey. This is where customer experience emerges as the solution to create a competitive advantage in ecommerce. Companies can transform their traditional business methods by leveraging user experience in ecommerce operations in order to create a competitive advantage (Bhat et al., 2016; Bonastre & Granollers, 2014). Today there is a growing interest in UX where companies aim to enrich the customer journey (Kaasinen et al., 2015).

Meanwhile, Law et al. (2009) stated that researchers had difficulty in reaching a consensus in defining and scoping the concept of user experience because it depends on many dynamic and difficult-to-measure criteria, both sensory and experiential. To comprehend the concept and scope of user experience they conducted a study in which opinions of around 250 practitioners and researchers about user experience gathered. The study results reveal that user experience has a dynamic and subjective structure. Among the many definitions made, Law et al. (2009) argued that although the definition of ISO should be more comprehensive, it is the most appropriate definition. According to the definition of ISO (2008), user experience can be referred to as the reactions and perceptions that an individual who experiences a product, service, or system has as a result of using them. Moreover, user experience includes all perceptions, reactions, and emotions that individuals have before and during use of a product, service, or system, not solely after use. It can be said that the user experience is the result of many contexts such as the previous experience and attitudes of the individual, the performance and functionality, presentation or even brand image (ISO, 2008).

Furthermore, criteria that are vital for user experience such as consistency, website design, payment and shipping options can directly affect the success of e-commerce. Also, due to the high competition between companies, businesses need to do more than sell products through e-commerce in order not to lose their customers and to make a profit. It can be said that they should provide customized services to customers and to use e-commerce platforms developed by considering users' experiences (Adaji, 2016).

This paper aims to explore the consumer journey in e-commerce in the context of user experience by delving into the consumer purchasing stages.

2. USER EXPERIENCE IN E-COMMERCE

2.1 Customer Journey in E-commerce

It is vital to understand what kind of stages users go through when using these platforms since companies can rebuild existing business models or create new ones to respond to the harsh competition environment.

User experience is difficult to examine and evaluate therefore innovative models such as "customer journey map" have been developed to measure the experiences of customers on e-commerce activities. The customer journey map is defined as a tool designed to examine the experiences of customers on websites and to measure the service quality of these websites. Main stages of customer experience schematized with sub-headings in Figure 1 (Mangiaracina et al., 2009).

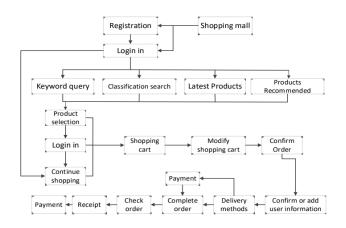


Figure 1. The 5 key phases of the model and the main driver per each phase (Mangiaracina et al., 2009)

The first phase in Figure 1 covers how the customers reach, land, and interact with the website. In fact, the customer's user experience begins outside the web application, and website. It is important through which activities the user finds the website such as by typing into the search engine, and by attracting attention with marketing campaigns. When a customer logs into an e-commerce platform, the first element that makes an impact on the customer is the home page. The second phase focuses on the stages of users reaching the products they want within the e-commerce platform. This stage is shaped by the fact that the users already know a product's features and search it deliberately, or they have a rough knowledge of the product's features and make comparisons between alternative products. The next phase is product promotion, that is, the way it is presented to customers. It includes important sub-stages such as the features of the product being easily accessible and understandable by the customers, describing the product features with audio or visual elements, clearly stating the product price and delivery information, and accessing the previous customers' comments. The fourth phase is the stage where users organize their shopping list and before closing their orders and making payment. At this stage, users may encounter additional payments such as shipment fee or additional discounts as well as the price of the product in their list. This phase is crucial since customers may abandon their purchasing behavior instead of proceeding to the next step. The last stage is payment, since it is easy to lose customers in this stage, factors such as making the payment quickly and safely, not being too complicated and offering different payment options to the customer are significant.

Some scholars focused on the design of websites to examine the role of design. With the fast-moving development of e-commerce, the rate of customers using online shopping platforms has increased. Cai et al. (2018) examined how an e-commerce website should be designed in order to provide a more extensive service to customers and visualized it with a diagram. The diagram in Figure 2 shows the steps that customers follow when making purchases on an e-commerce website (Cai et al., 2018)

Figure 2. Process path diagram of website (Cai et al., 2018)



The visual design of an e-commerce platform should not only create a beautiful and visual impact on users, but also be understandable by users and fulfill their behavioral and psychological expectations. For instance, page layout, text sizes, and color harmonies are some of the important factors. Briefly, the stages that customers go through on online shopping platforms are shown in Figure 1, and it is recommended that companies examine these stages and design their business systems accordingly in Figure 2.

2.2. Factors Affecting Online Purchase Behavior of Users

The success of e-commerce sites depends on analyzing the factors affecting consumer behavior well and organizing the website accordingly. However, the behavior of the consumer in the internet environment differs between first-time users and users who use it constantly. The behavior of users on the internet may change as they gain an e-purchasing experience. There are different influencing factors for a first-time user and an experienced online user. (Hernández et al., 2010). First-time users have determinants for acceptance, intent, and usage of e-purchasing and these specifiers differ from experienced users. By using the technology acceptance model, it was investigated by Hernández et al. (2010) how variables such as perceptions of ease of use and usefulness, trust, and self-efficacy affect these two different users. Differences emerged between the e-commerce perceptions of potential and experienced customers. In particular, word of mouth is the most important factor that encourages first-time purchases. Hernández et al. (2010) argued that the effect of self-efficacy and perceived usefulness to online purchases increased after the first e-purchase. When customers repeat their online purchases several times, they feel more comfortable online and create positive intentions to purchase again.

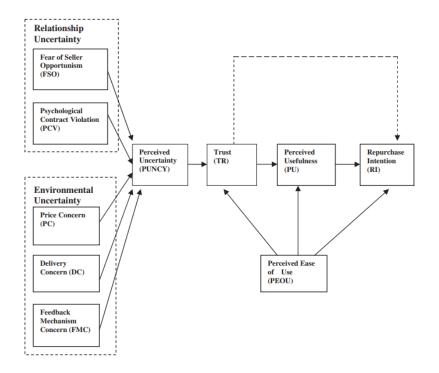
2.2.1 The impact of the prior experience on shopping behavior

With the rapid development of technology, the shopping behavior of customers has also changed. Many internet users can do all their shopping online with one click. Therefore, users' experiences play an important role in ecommerce. There is a difference in experience between repeat purchasers and first-time customers. One of the critical factors affecting the purchase intention of the users who continue to buy is the previous shopping experience (Su et al., 2012). Due to there is a lot of uncertainty in online shopping, users who are satisfied with prior shopping experiences incline to interact with the same online seller again. Su et al. (2012) conducted research among the customers of PChome Shopping Store (www.pchome.com.tw) and Books Shopping Store (www.books.com.tw). These two online stores are the most famous and biggest online shopping experience of repeat customers. Participants were asked about past experience with the online vendors. Questions are intended to measure how repeat customers perceive the ease of use, trust, usefulness, and price, of the websites. Overall, according to the results, there is a strong relationship between user experiences and perceived uncertainty, usefulness, trust, and ease of use.

Different factors drive repurchase intention of customers. Perceived uncertainty, customer trust, perceived usefulness, and perceived ease of use are predictors of technology acceptance model (TAM) and vary with customer experience in online shopping. If these insights provide a good experience, they can also positively affect repurchase intent. Since customers cannot physically examine the products and interact with the seller face to face, it is natural for uncertainty to exist in the internet environment. Perceived uncertainty can be influenced by relationship and environmental uncertainty that are shown in Figure 3. Seller opportunism and fear of psychological contract violation were cited as two antecedents of relationship uncertainty. Buyers may have a fear of self-interested seller opportunism because they cannot monitor and control sellers after purchasing online. Psychological contract violation can be described as a buyer's belief that he or she has been mistreated by the seller and it can occur when buyers do not get what they expected. Cultural differences and environment separation between buyers and sellers can cause psychological contract violation. These relationship uncertainties can be positively associated with perceived uncertainty. Environmental uncertainty consists of price concerns, delivery concerns, and return mechanism concerns. Failure to deliver on the promised date, deliberate misrepresentation of the product price, or insufficient information flow to the customer cause environmental uncertainty. Platforms such as cimri.com and akakce.com in Turkey can enable users to see different price comparisons of the desired product in order to minimize price concerns. These websites that allow benchmarking of the price of the same products on different e-commerce sites increase transparency and thus minimize uncertainty. If customers believe that the benefit of shopping online outweighs these uncertainties, they will have more repurchase intentions. The ease of use, usefulness, and trust of the website are influential factors for users to have repurchase intentions and this is based on their experience from

the previous purchase. Repurchase intention is directly proportional to trust in the seller and perceived usefulness. It has been found that the website's product search engine, easy access to the desired product, and effective use of filtering features will increase the benefit to be gained by the user, thus positively affecting the purchasing experience. For this reason, shopping from a site where we have shopped before is found to be more reliable and less uncertain than a site we have never shopped from. The role of user experience is important to attract more customers to the e-commerce site (Su et al., 2012).

Figure 3. Influential factor to repurchase Intention (Su et al., 2012)



2.2.2 Trust

Today, the internet environment has become an indispensable business platform for commerce. Commerce over the internet can occur between businesses (B2B) or between business and customer (B2C). In both types, one of the most critical factors affecting the online shopping experience of users is trust. As users' trust in the e-commerce site increases, they will be more willing to shop online and a successful relationship will occur between the user and the e-commerce site (Corbitt et al., 2003). Users want to trust their shopping and gain a good experience. Trust plays a critical role since the presence of high uncertainty in online shopping. While the characteristics of the web retailer can create behavioral uncertainty, technological infrastructure and the quality of the web site can affect the environmental uncertainty (Pavlou, 2014).

There are some main variables that affect the customer's perception of trust and risk in the type of business-tocustomer e-commerce. Corbitt et al. (2003) argues that the better the quality, technical reliability, and marketing orientation of the site, the more positive effects it will have on the user's trust intention. Just as the quality of the conventional shopping environment, the decoration of the store, the categorization of products and easy access to similar products enhance the consumer's shopping experience and increase trust, the quality of e-commerce sites, that is, the decoration and usefulness of the site will increase the trust of the user. The quality of the ecommerce site increases the quality of the service provided, and this should be supported technically. Improving the trustworthiness in terms of technically will positively affect the trust intention of users for the site. For example, the speed of the site, the easy detection of the movements on the site, the saving of user information, and the absence of a crash on the site are technical details, and after these are well designed, the site looks quality (Corbitt et al., 2003).

Marketing orientation is another variable to build trust and reduce perceived risk during online shopping. Ecommerce sites can monitor users' movements from time to time to understand their priorities, the information they obtain creates differentiated marketing by offering special recommendations and coupons to customers. Ecommerce sites should offer a great and clear communication system and involve customers in their business strategy. Although marketing orientation can be an important factor for business strategy, there is no significant relationship found between trust and marketing orientation. Since customers may not have adequate knowledge to evaluate marketing orientation, connection cannot be made with trust. As reported Corbitt et al., (2003) perceived risk and trust, as well as perceived risk and participation in e-commerce are not exactly opposites. Although users find it risky to shop online, it has been discussed that it will not affect the number of online shopping. In addition, as the number of Internet users increases, users' security concerns may increase, which may reduce trust.

Lastly, positive word of mouth can have a major effect on building trust for online shopping sites. Positive word-of-mouth communication is effective in creating a brand image as well as building trust for customers. For example, return processes, refunds, and the fact that the product reaches the user as it appears, increase the trust in the site with the positive comments of others. Positive word-of-mouth communication is important in building trust, especially by people whose ideas are valued in society and who can address many people (Corbitt et al., 2003).

2.2.2.1 Trust and Technology Acceptance Model (TAM)

Trust is related to perceived ease of use and perceived usefulness in online transactions, which are two predictors of the technology acceptance model (TAM). The technology acceptance model (TAM) is a model that describes the behavioral intention of the potential user in terms of using the technology. (Davis, 1989). While perceived usefulness is the degree to which users believe that technology makes processing time easier, the term of ease of use is the level of which a technology is effortless to use (Pavlou, 2014).

If an e-commerce site is trustworthy, this will increase perceived ease of use because trust makes the process easier while reducing the user's need to check. It's easy to shop from a trusted Web seller and users don't need to track every detail after ordering. Thus, users do not spend unnecessary time and effort. Variants of the technology acceptance model can be used to understand the behavioral intentions and behaviors of users. These variables contribute to the acceptance of e-commerce.

2.2.2.2 Trust and perceived risk

Trust building is essential, especially for online business platforms because customers are more inclined to feel vulnerable online. According to Koller (1988), customer trust is highly related to the degree of perceived risk. When an e-commerce platform seems trustier in the eyes of customers, the degree of perceived risk falls (Pavlou, 2003). When a customer trusts a web retailer, they believe that the web retailer does not commit in opportunistic behavior (Gefen, 2000). Hence, the perceived risk is reduced. The relationship with the web retailer should create trustworthiness. Familiarity with Web retailers can be built from past experiences or previous interactions. There may be greater trust in the familiar retailer. Gefen (2000) stated that familiarity is about the understanding of the current actions of a web retailer whereas trust is about beliefs about future actions. For example, customers who are familiar with Amazon.com -the largest online platform- can have knowledge about how to order books or how to find what they are looking for. This increases trust and reduces perceived risk for customers (Gefen, 2000). Once users trust a web retailer and use that web retailer repeatedly which creates familiarity, they think that the web retailer will not take any action that will cause the customers to lose their trust.

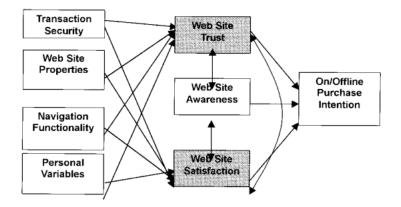
2.2.2.3 Antecedents and consequences of trust

Online sites need to establish the antecedents of trust for their users. In Figure 4, antecedents of website trust and its consequences are visualized. The main antecedents which are transactional security, web site properties, navigation functionality, web site awareness and personal variables are considered important for web-site trust and web-site satisfaction. Security overpayment system is another antecedent affecting online purchasing. While transaction security determines the institutional status in the payment system of any online e-commerce site, it also affects the risk perceived by the user. In order for the user to trust the website and to minimize the perceived risk, websites should consider the logos and symbols that represent their security systems on the website. In addition, the refund policy should be clearly stated (Yoon, 2002). Since the payment is made in advance without seeing the product live in online shopping, users may fear that the product will not come out as expected and their money will be wasted. For this reason, in order to increase online shopping, it should be guaranteed that the fee will be refunded in case of any negativity about the product. If it is known that the money paid will be refunded in case of product return, users can shop without hesitation. Finally, a statement that personal information will be protected will also increase the reliability of the website. Yoon (2002) argued that a website that seems reliable will positively affect the trust and satisfaction of the user. The second antecedent includes the properties of the website and determines the utilitarian value of the site to the user. The user expects to gain significant value as a result of the time spent on the site. For this reason, the website should keep its product range wide and appeal to every segment of customers. In addition, product descriptions should be at a level that satisfies the online customer. For this purpose, website features increase satisfaction and trust in the site. Similarly, it has been stated that the awareness of the consumer about the website is a factor in evaluating the reliability of the website and this will increase customer satisfaction later on. The products on the site are produced by different companies or have different vendors. Therefore, instead of seller or product-based brand awareness, the users' awareness of the website is more prominent. The more familiar site name increases the user's trust in the site (Cheskin, 1999). Awareness of the website and familiarity to the website have a substantial impact on the online shopping intention.

Navigation functions must meet the information needs of the users at the desired level. It is a premise that the product searched on the website reaches the user in the desired way and in the desired time, which will increase the satisfaction of the user. In a good, reliable, and user-satisfied website, it is well directed which product will be found where, and the product categorization is done in an explanatory way. Website features such as operational efficiency, online browsing speed, use functionality of the help function increase website quality and thus can be positively associated with trust and satisfaction.

Finally, personal variables have an impact on website trust and website satisfaction. First of all, internet use familiarity and online shopping learning efficiency are among the personal variables. The benefit of online shopping can vary between individuals because it depends on who expects what. According to Yoon (2002) While a person's previous experiences affect their next purchase, if they have a good experience, their satisfaction with each purchase also increases. The above-mentioned antecedents are effective in building website trust and website satisfaction. Online purchase intention is revealed as a consequence of trust and satisfaction to the website.

Figure 4. Model of Relations Among the Online Consumer Trust, Consumer Satisfaction, and Purchase Decision (Yoon, 2002).

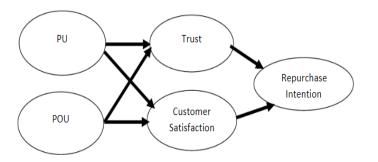


2.2.3 Perceived usefulness and perceived ease of use

Customers repurchase intention and loyalty are very crucial for e-commerce websites to be successful in the sector. The usefulness and ease of use of the website are factors that play an important role in repurchasing the intention of customers and creating loyalty. While Keni (2020) expresses perceived usefulness (PU) as the judgments of users about whether their quality of life will increase thanks to the advantages, they will gain by using a certain technology, perceived ease of use (POU) is explained as the perception of how easy the technology used is. Therefore, the technology of e-commerce sites should carry the criteria of ease of use and usefulness. Ease of use and usefulness, which are the main variables in the TAM, have the power to positively affect the customer's usage behavior. The usefulness of an e-commerce site aims to increase the efficiency of customers, the speed of achieving the desired results, and thus the quality of life of the users (Li, 2016). Website's ease of use occurs when the value the user gets is more than the cost he spends. Clear directions and

convenient access to desired information on the site affect the ease of use (Childers et al., 2001). This means that perceived ease of use and usefulness positively affect the customer's repurchase intention. According to a study conducted by Stocchi et al. (2019) on mobile applications in the UK, users who think that the mobile application is useful and easy to use, tend to have positive thoughts about these applications. Therefore, they also showed an intention to reuse these applications for their shopping.

Figure 5. How Perceived Usefulness and Perceived Ease of Use Affecting Intent to Repurchase? (Keni, 2020).



The usefulness and ease of use of websites allow the e-commerce user to constantly shop from that site. It is visualized in Figure 5 that PU and POU will increase customer satisfaction and have a positive impact on repurchase intentions. An e-commerce site that is easy to use is one step ahead of its competitors because it triggers users repurchase intent. When users know that they will not have any difficulties in their shopping adventure and perceive that it is easy, it affects their satisfaction positively (Keni,2020).

2.3. Measuring User Experience and Issues

The quality and usefulness of these websites is very important to customers. User experience directly affects software success and has costly evaluation processes (Bakiu & Guzman, 2017). Looking at previous studies, it has been determined that the analysis of user experiences is very important. E-commerce sites should take care to keep their websites and applications up-to-date and develop them in order to gain competitive advantage. Although it is possible to design a website for people with basic computer skills, it is a very difficult task to design a website with a good level of user experience and usability (Eksioğlu et al., 2015). Customers encounter various problems due to design errors and deficiencies in their websites. They may even stop using the same website for their next purchase. This prevents the formation of customer loyalty. Website deficiencies are a very common problem. While designing an e-commerce website, one of the most important factors is the user's characteristics, while the other is the frequency of use of the website. Website experience can be categorized in four main sections to investigate the problems of website experience (Eksioğlu et al., 2015). The first is the discovery phase and the second is the browsing phase. The third phase is the receiving phase, which is one of the most important phases. The last stage is after payment. According to the evaluations, visualizations in frequently used applications such as Amazon, Facebook, Google Play, and Apps store can be increased (Bakiu & Guzman, 2017). On the other hand, usefulness is very important in these UX evaluations because users care about usefulness. Although the currently widely used measurements are small-scale, large-scale ones give more comprehensive results (Rodden et al., 2010).

Two types of large-scale measurement will be mentioned in the following section.

2.3.1. PULSE metrics

Large-scale measurement techniques commonly used today focus on the technical and commercial aspects of the current product (Rodden et al., 2010). They are widely used by most of the organizations. These Pulse metrics include "Page views, Uptime, Latency, Seven-day active users, and Earnings". Each of these metrics has its own importance. No user wants the site they use to load slowly and delay. On the other hand, customers may stop purchasing products that require a long purchasing process. Websites and applications that offer a successful user experience are likely to bring more revenue to companies (Rodden et al., 2010). According to this type of measurement, the complexity of the interfaces of the sites or applications also leaves a bad impression on the user. While some changes may bring more revenue in the short run, they can negatively

impact the user experience in the long run. The seven-day active users metric measures the overall volume of the user base, and it's not enough. The reason for this is that users' loyalty to the product cannot be measured with this method (Rodden et al., 2010).

2.3.2. HEART metrics

This method was created for the shortcomings of Pulse. The components of the measure are called Heart: "Happiness, Engagement, Adoption, Retention, and Task achievement".

i. Happiness. The term happiness relates to subjective criteria such as satisfaction, likelihood of recommendation, visual satisfaction, and ease of use. Companies can measure satisfaction at regular intervals through surveys. It will be easier for them to decide on the changes to be made on the sites.

ii. Engagement. It is the rate of participation of users or buyers in the product. It covers phenomena such as frequency and intensity of use. Frequency of visits to the site can be measured by interactions such as photo upload or comment frequency. These interactions are divided by the number of users and a ratio is generated.

iii. Adoption and Retention. This metric addresses the problem of distinguishing existing users from new users (Rodden et al., 2010). This metric can provide precise information on the exact number of users. The term, called Adoption, represents how many people start using a new product in a given time period. The term retention indicates how many current users are still customers. Saying "to use a product" varies according to context, purpose, and time (Rodden et al., 2010). Visiting a website is also using a product. On the other hand, simply signing up for a website without purchasing anything can be counted as using a product.

iv. Task Success. The last metric, task success, covers efficiency and error rate measurements. For example, the user is presented with 2 options, and both are used. The error rates of these two options are measured and compared separately. Finally, the one with the lowest error rate is developed and used.

4. CONCLUSION

Recently, the concept of user experience has become significant for companies, as well as the concept of ecommerce. It may not be sufficient for a company to provide services on e-commerce platforms without considering the concept of user experience, to compete with its competitors. While shopping on e-commerce platforms, users go through certain processes from entering the site to payment stages. During these stages, there are some factors that affect the e-commerce experience of users to prompt the repurchase intention. One of the most important factors is the prior experience of the users. Those who are satisfied with prior experiences tend to continue shopping again on that e-commerce platform. The other important factors of UX are trust, usefulness, ease of use, and familiarity with the platform. These factors, which will affect the user experience positively and negatively, can be considered to improve the online shopping experience of customers.

In our research, we reflected current conceptual articles' perspectives on user experience. Information security, functionality of the web page and navigation, and properties of the website are all quite valuable clues that will guide the marketing strategies of e-commerce platforms in the context of user experience. If companies use these clues effectively and create customer-oriented platforms, there can be an increase in customers' purchasing intentions. In addition, we believe that PULSE metrics provide valuable numerical data for measuring user experience, but they may not be sufficient on their own. Therefore, HEART metrics and PULSE metrics can be used together in future research that wants to measure UX, because User Experience is considered a human-oriented emotional term. Numerical data and emotional data together can yield more valuable results. Thus, we hope that researchers who will conduct research in this field combine quantitative and qualitative research methods in order to obtain more concrete information.

REFERENCES

Adaji, I. (2016). Improving E-Commerce User Experience with Data-Driven Personalized Persuasion & Social Network Analysis. In UMAP (extended proceedings).

Bakiu, E., & Guzman, E. (2017). Which feature is unusable? detecting usability and user experience issues from user reviews. 2017 IEEE 25th International Requirements Engineering Conference Workshops (REW). https://doi.org/10.1109/rew.2017.76

Bhat, S., & Kansana, K., & Majid, J. (2016). A Review Paper on E-Commerce. TIMS 2016 International Conference, 2016.

Bonastre, L., & Granollers, T. (2014, March). A set of heuristics for user experience evaluation in e-commerce websites. In 7th International Conference on Advances in Computer-Human Interactions (pp. 27-34). IARIA.

Cai, L., He, X., Dai, Y., & Zhu, K. (2018). Research on B2B2C e-commerce website design based on User Experience. Journal of Physics: Conference Series, 1087, 062043. https://doi.org/10.1088/1742-6596/1087/6/062043

Childers, T.L., Carr, C.L., Peck, J. and Carson, S. (2001) Hedonic and Utilitarian Motivations for Online Retail Shopping Behavior. Journal of Retailing, 77, 511-535. http://dx.doi.org/10.1016/S0022-4359(01)00056-2

Corbitt, B. J., Thanasankit, T., & Yi, H. (2003). Trust and e-commerce: A study of consumer perceptions. Electronic Commerce Research and Applications, 2(3), 203–215. https://doi.org/10.1016/s1567-4223(03)00024-3

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319. doi:10.2307/249008

Ekşioğlu, M., Varol, S., & Duman, Y. (2015). An Investigation of User-Experience Design of E-Commerce Websites, 316.

Gefen, D. (2000). E-commerce: The role of familiarity and trust. Omega, 28(6), 725–737. https://doi.org/10.1016/s0305-0483(00)00021-9

Hernández, B., Jiménez, J., & Martín, M. J. (2010). Customer behavior in electronic commerce: The moderating effect of e-purchasing experience. Journal of Business Research, 63(9-10), 964–971. https://doi.org/10.1016/j.jbusres.2009.01.019

ISO DIS 9241-210:2008. Ergonomics of human system interaction - Part 210: Human-centred design for interactive systems (formerly known as 13407). International Organization for Standardization (ISO). Switzerland.

Kaasinen, E., Roto, V., Hakulinen, J., Heimonen, T., Jokinen, J. P., Karvonen, H., Keskinen, T., Koskinen, H., Lu, Y., Saariluoma, P., Tokkonen, H., & Turunen, M. (2015). Defining user experience goals to guide the design of Industrial Systems. Behaviour & Information Technology, 34(10), 976–991. https://doi.org/10.1080/0144929x.2015.1035335

Keni, K. (2020). How perceived usefulness and perceived ease of use affecting intent to repurchase? Jurnal Manajemen, 24(3), 481. https://doi.org/10.24912/jm.v24i3.680

Koller, M. (1988). Risk as a determinant of trust. Basic and Applied Social Psychology, 9(4), 265–276. https://doi.org/10.1207/s15324834basp0904_2

Law, E. L.-C., Roto, V., Hassenzahl, M., Vermeeren, A. P. O. S., & Kort, J. (2009). Understanding, scoping and defining user experience. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. https://doi.org/10.1145/1518701.1518813

Li, Y. (2016). Empirical study of influential factors of online customers' repurchase intention. IBusiness, 08(03), 48–60. https://doi.org/10.4236/ib.2016.83006

Mangiaracina, R., Brugnoli, G., & Perego, A. (2009). The eCommerce Customer Journey: A Model to Assess and Compare the User Experience of the eCommerce Websites. Journal of Internet Banking and Commerce, 14.

Pavlou, P. A. (2003). Consumer acceptance of Electronic Commerce: Integrating Trust and Risk with the technology acceptance model. International Journal of Electronic Commerce, 7(3), 101–134. https://doi.org/10.1080/10864415.2003.11044275

Rodden, K., Hutchinson, H., & Fu, X. (2010). Measuring the user experience on a large scale. Proceedings of the 28th International Conference on Human Factors in Computing Systems - CHI '10. https://doi.org/10.1145/1753326.1753687

Stocchi, L., Michaelidou, N. and Micevski, M. (2019). "Drivers and outcomes of brandedmobile app usage intention", Journal of Product & Brand Management, Vol. 28 No.1, pp. 28-49. https://doi.org/10.1108/JPBM-02-2017-1436.

Su, K.-W., Wang, J.-W., & Hsu, M.-H. (2012). The impact of prior experience on shopping behaviors. Journal of the Chinese Institute of Industrial Engineers, 29(6), 400–416. https://doi.org/10.1080/10170669.2012.715595

Yoon, S.-J. (2002). The antecedents and consequences of trust in online-purchase decisions. Journal of Interactive Marketing, 16(2), 47–63. https://doi.org/10.1002/dir.10008