

TECHNOLOGY ACCEPTANCE MODEL IN CONTEXT WITH ONLINE FOOD ORDERING AND DELIVERY SERVICES: AN EXTENDED CONCEPTUAL FRAMEWORK

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ABSTRACT

Online Food Ordering and Delivery Service is an emerging business in today's world. Like e-commerce business these food-tech companies totally depend on technological platforms. Technological Acceptance Model (TAM) is developed to study the acceptance of new technology from owners and user's point of view (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). There is always a mixed reaction of users when they interact with new systems or technologies because of complexities and uncertainties. When it comes to acceptance of new technologies, TAM comprise of two variables- ease of use and usefulness of new technologies. This study is carried out to extend the original TAM framework by considering other factors which plays a vital role in study of acceptance of new technology. These factors are attitude, behavioral intentions and their impact on purchasing decision. Online food ordering and delivery services are operated by user through website or mobile app. The usefulness of technology can be studied by using extended TAM and ease of usefulness can also be studied when user or customer interact with websites and mobile apps. This extended TAM may not be fit in other systems because the factors like intangibility, perishability, urgency etc. in food ordering and delivery service may not be identical in different verticals of e-commerce.

Keywords: Technological Acceptance Model, Ease of Use, Usefulness, E-commerce, Food Delivery Services, Consumer Behavior.

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1. INTRODUCTION

Internet has changed the way of functioning in every stage of life. New technologies and innovations are creating buzz and influencing people to adopt new changes. Most crucial part is to convince people to adopt new technologies. We are in era where everything is going online which was earlier available in physical places. Internet users in India are expected to reach around 500 million till the end of 2018. (Economic Times, 20th Feb 2018). The new virtual place called e-commerce has occupied most of the businesses so as the availability of food. Due to fast changing life and cut throat competition people are always looking after new ways to reduce their efforts. Accepting new technologies is all about user's perception. People who are very keen towards technology are ready to adopt new changes rapidly. In India, Food Ordering and delivery service sector is expected to grow at 15% every quarter despite of companies charging extra delivery charges to customer. (RedSeer Report Jan-2018)

However TAM is incapable of explaining behavior of consumers in context with e-commerce websites (Rima Fayad and David Paper 2015). Web analytics and big data have considerably took over the decision and consumers behavioral part to the next level but the basic need of customer, their intention and behavior is not easy to predict. Every customer carries different sets of expectations and experiences in terms of gender, age and educational level. In many cases technology remains the same but users keep on changing. Food ordering and delivery services are most emerging and trending business in today's world. Like other e-commerce websites online food ordering and delivery firms are making huge profits. This is due to rapid urbanization and nuclear families where both members are working professionals. People prefer to buy food via online food delivery service because of many factors which influence their purchasing decisions. These are discount offers, can order their favorite food at any time, quick and fast delivery, easy to order through websites and mobiles. In Online Food delivery services various external factors impact the intention and behavior towards websites. One vital factor which is uncommon when compared with other e-commerce websites is "freshness of food" (product) as customer has to take instant decision because food is basic need of human being. The online food delivery services have the data base of nearby restaurants which comprise of food menus with price, reviews, pics of delicious food, etc. Some extra features such as nutritive values are not updated on websites because many mix meal is not available and customer prefers to order customized food as per their requirement. Customer can visit the website or mobile app, search for the food and place the order by making online payment. Customer will receive the order at his/her doorstep within the estimated time. While performing this entire process customer goes under various steps. Right from deciding the order till the final payment.

2. OBJECTIVE OF THE STUDY

To suggest extended technology acceptance model for online food ordering and delivery services by considering two dimensions - perceived ease of use and perceived usefulness in context with e-commerce with special reference to food ordering and delivery websites. To

analyze attitude and behavior of customers by applying extended technology acceptance model in food delivery and ordering services.

3. PURPOSE OF THE STUDY

Many researchers had proposed TAM in many verticals of information technology. Especially in e-commerce sector, factors affecting online shopping behavior of customers. The purpose of this research is to explore TAM and how users accept technology with special reference to online food ordering and delivery services. This study will also possibly identify factors (both internal and external) influencing users to adopt new technology.

3.1. Dimensions

TAM usually comprise of two dimensions perceived usefulness, ease of use. TAM has been used by many researchers to study the acceptance of new technologies. In e-shopping perceived information, service quality and system has a positive impact on usefulness and ease of use (Hsu, Wu, Chen and Chang 2012). Diffusion of Innovation Theory (E.M. Rogers 1962) explains about how new innovation/ technologies spreads through entire culture and societies. The theory talks about adopting new technologies and how innovation influence customers to accept new technologies. As E-commerce is just a technical platform, Diffusion of Innovation theory may not be applied because World Wide Web (www) was innovated in very early days and later on new different sets of segments were added to the cart so as the online food ordering and delivery services.

4. LITERATURE REVIEW

Technology Acceptance Model is a theory of information systems which explains how user accepts new technology. TAM also helps in identifying various factors that influence user's decision in accepting new technology. Basic TAM comprise of two important dimensions, which are ease of use and usefulness with respect to information system or technology. Usefulness states the behavior of the user towards particular technology and how his or her work will be effectively done. Ease of use states that how user believes that his or her work would be effortless (Davis 1989).

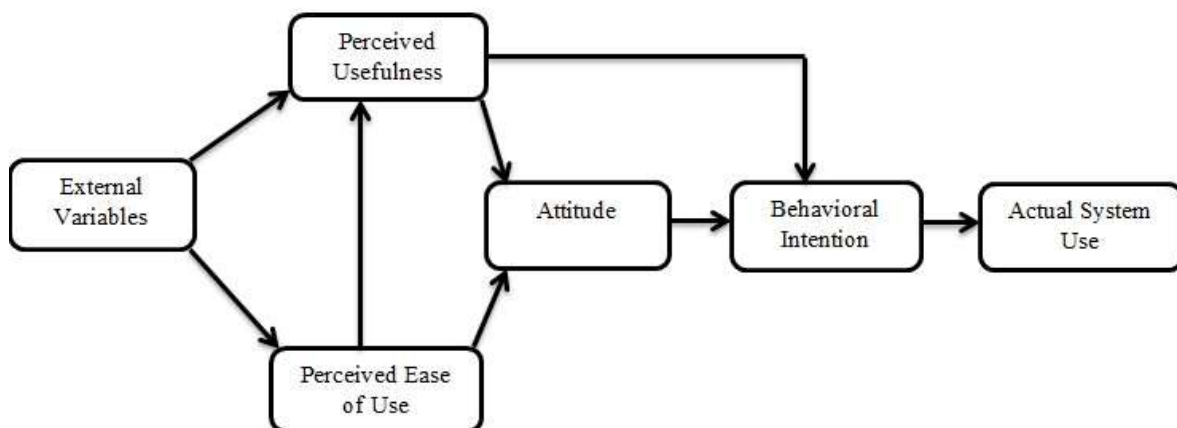


Figure 1 Technology Acceptance Model by Davis et al. (1989)

Many researchers have upgraded the TAM considering there area of interest but in e-commerce sector TAM2 states that perceived risk and trust are important factors which were found effective while use of system (Venkatesh & Bala 2008). TAM theory is an extension of theory of reasoned action (TRA) which explains that if user decides to act then the user will act freely without any limitations (Martin Fishbein and Icek Ajzen in 1967). But later on

researchers found that in real situation different factors affect to create attitude and behavior of user and hence was incapable to measure actual ease and usefulness in e-commerce. (Okafor, D. J., Nico, M. & Azman, B. B. 2016) had found that perceived ease of use does not influence adoption of new online multimedia technologies, but some external factors are also responsible for influencing such as age, gender, literacy level of people in particular area, traditional beliefs. For eg- facebook is banned in China, hence government if self does not want people to use particular social media platform as it will exploit the current youth generation.

4.1. Diffusion of Innovation Theory

A theory was developed in early days to study how new technology spread across the boundaries called as Diffusion of Innovation Theory (Everett Rogers 1962). Time, communication channels, society and innovation itself are major elements in influencing customers. These four elements decide adoptability and sustainability on innovation or technology. According to Diffusion of Innovation Theory technology would reach at the stagnant position where users will find alternative options to fulfill their requirement. Users are basically divided into four categories- early adopters (become user friendly very early), early majority (majority of the people adopt technology), late majority (remaining group of people start using), sluggard (not able to adopt technology easily). As this theory very effective at early stage when innovation is newly introduced. However it is difficult to study upgraded versions of innovation by this theory because internet and e-commerce was introduced earlier in 1994 hence diffusion of innovation theory may not be feasible to study the behavior and attitude of customers in online food ordering services.

Consumer's perspective of selecting food is choices between convenience, taste, and health (Costa, Schoolmeester, Dekker and Jongen, 2007). Researchers have also used Theory of planned behavior to study the attitude and behavioral intentions of consumers. (Icek Ajzen 1985). An alternative approach to understand consumer decision making is presented by the theory of planned behavior (Ajzen, 1991, 2005, 2012). This theory usually focuses on consumer behavior and their interests. Example in this situation is placing online food order through different food delivery website. The suggested framework is to identify the determinants of such behavior where customer selects particular website among available online food delivery services.

4.2. Basic Business Model of Online Food Ordering and Delivery Services

Online food ordering firms does not take responsibility of the quality of food. That ownership is taken by restaurant owner. The customer gets registered on the food ordering website. Customer finds the favorite restaurant from nearby area. Customer then views the food items. Finally customer decides to place the order. Customer places the order and makes online payment. Placed order is directly sent to food ordering and delivery portal. Simultaneously order is also received to the restaurant. Order will be prepared in stipulated time which was promised to customer earlier while placing the order. Food delivery boy will pick up the order from restaurant and will deliver at customer's doorstep. (<https://www.fatbit.com>) In this entire process, three major parties are involved – Online food ordering and delivery portal, restaurants and customer.

Technical factors responsible for online food ordering and delivery services are speed of the internet, response time of the website, graphical interface of the website (GUI), User experience. External factors would be quality of the delivered food (freshness), packing of the food (parcel), and kindness of the delivery personal. Research conducted by Institute for Color Research states that around 60% to 90% customer make an assessment by seeing the

color of the website (Dec 2011), therefore it can said that attractive color used in website layout is factor to success in e-commerce. Mostly online food and delivery services use combination of various shades of red/orange and white color because red color in food sector is associated with hungriness, hotness, freshness, etc. and white color is used to clearly visualize about the content available on the website. For example most popular websites for food ordering are Zomato, Just Eat, Foodpanda, Food Mingo, etc. Graphical interface of the website is another aspect which has direct correlation with perceived ease of use. User experience of the website also plays a vital role in engaging the customer. If customer feels comfortable to operate the website and finds easily what he / she is willing to buy then chances are more to receive repeated actions from customer in future. Now a days food and delivery service websites ask to locate customer’s current location so that they can provide better restaurants from nearby areas to help customer to place their order from favorite restaurant.

5. EXTENDED TECHNOLOGY ACCEPTANCE MODEL FOR ONLINE FOOD ORDERING AND DELIVERY SYSTEM

In an organization software is used to improve efficiency of work. Generally this decision is taken by company and every person in the organization has to use the software for executing organization’s work. In this case user does not have alternative option rather than using the recommended software. But in online food delivery services customer can choose among the available alternatives (Rima Fayada, David Paper 2015).

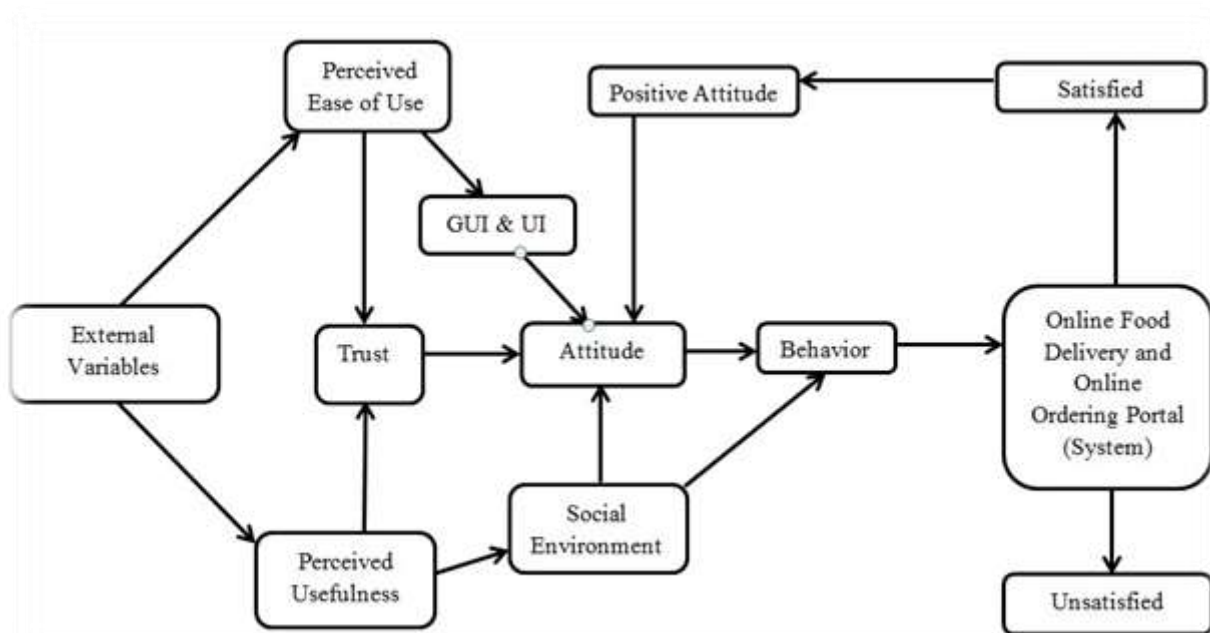


Figure 2 Extended TAM for Online Food Ordering and Delivery System. (Author’s suggested model)

Above figure shows extended TAM for online food ordering and delivery system. Basic TAM comprise of perceived ease of use and perceived usefulness. After doing exploratory research and literature review on TAM, it is found that may researchers have studied and used TAM in different technologies. Eungkyu Kima, Roman Urunovb, Hyungjoon Kima (2016) in their research regarding consumer acceptance stated that national cultural values are key factors of an individuals in adopting new technologies. The extended TAM in this research explains about adopting online food delivery system from customer perspective. While exploring the literature many factors came across and most common factor is trust which has

direct correlation with ease of use and usefulness. When the customer develops an attitude to use the system, first thing that he/she would come across is the graphical interface. According to Lazy User Model Theory, user selects the easiest way that carries less effort. Graphical Interface is an important factor to attract and retain the customers. Online shoppers perceive high information about the products and services. With the help of graphics how information about restaurants, food and reviews are posted is important. Customer should not struggle to find the appropriate information in website. Competition among websites is based on how information is presented in the website. (Hristo Katrandjiev, Ivo Velinov 2014), hence website graphics has direct relation with attitude development on customers. Social environment, culture and beliefs are important elements in developing behavioral intentions of customers. When a person decides to order food through online platform, customer looks for specific food which is related to his /her culture and traditions. Also society and community to which they belong influence their behavior and intentions. Like other e-commerce website customer don't spend lot of time in searching. They simply accept the navigation call from website, choose the food among their favorite restaurant and place the order. Customer satisfaction is most the most important factor in every business enterprise so as in food- tech companies. It decides the survival and future of the company. To measure the customer satisfaction level of online food delivery services; delivery, service quality, customer service and food quality should be considered. Trust is built on the past experience on the customer. If customer has a good experience from his / her previous experience then he/she will revisit the same website for ordering the food (Zulkarnain Kedah, Yusof Ismail, A.K.M. Ahasanul Haque & Selim Ahmed 2015). Time is a key success factor in online food delivery services and also in retention of customer for long run. Delay in service creates negative impact on customer which leads to disloyalty. Service is intangible thing provided by service provider to customer. In food delivery service, delivery agent carries tangible products (food) which they deliver to customer's doorstep. Food quality is another important aspect in satisfaction of customer, however food-tech companies does not take ownership of freshness of food.

6. CONCLUSION

- While studying online behavior of customers, it is found that TAM is very effective theory to study factors responsible for creating attitude and behavior of customer towards e-commerce especially in online food delivery services.
- Factors such as freshness of food, delivery time and packaging are external factors which are difficult to study through TAM because TAM is only used to study ease of use and usefulness of technology.
- In every e-commerce business trust and risk are important factors which have direct relation with ease of use and usefulness.
- Graphical user interface (GUI) plays important role in attracting customers to use the system hence it can be said that it has direct relation with developing positive attitude of customers towards online food ordering and delivery services.

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