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## Marketing

The Extended UTAUT2 Model

An Empirical Investigation

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Highlights

Communication and Empowerment

Discovering Thoughts, Inventing Future

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## CONTENTS OF THE ISSUE

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- i. Copyright Notice
- ii. Editorial Board Members
- iii. Chief Author and Dean
- iv. Contents of the Issue
  
- 1. Consumers' Food Delivery Apps (FDAs) Continuance Intention: An Empirical Investigation using the Extended UTAUT2 Model. *1-20*
- 2. Influence of Service Quality Dimensions in Commercial Banks of Bangladesh: Existing vs Expected. *21-28*
  
- v. Fellows
- vi. Auxiliary Memberships
- vii. Preferred Author Guidelines
- viii. Index



# Consumers' Food Delivery Apps (FDAs) Continuance Intention: An Empirical Investigation using the Extended UTAUT2 Model

By Mohammad Alauddin & Sume Akther

*University of Chittagong*

**Abstract-** Online food delivery applications (FDAs), a novel alternative marketing channel, have been extensively adopted by both enterprises and customers in the restaurant sector. Despite the changing consumer attitude towards FDA services, there is still a dearth of research on understanding consumers' continued intention to use FDA services in Bangladesh's expanding food delivery market, particularly after the COVID-19 pandemic. To attain this goal, this study employed the widely used Extended Unified Theory of Acceptance and Use of Technology (UTAUT2). The model was tested was evaluated using partial least square structural equation modeling (PLS-SEM) on 350 respondents. According to the findings of the study, performance expectancy, social influence, facilitating conditions, hedonic motivation, price value, information quality, and convenience are all critical factors in maintaining the desire to utilize FDA services in Bangladesh. However, effort expectancy, habit, and time-saving were insignificant in the context of Bangladesh. This study contributes theoretically and practically to academics and practitioners working in areas related to online FDAs services.

**Keywords:** UTAUT2, food delivery apps, FDAs, continuance usage intention, online shopping, bangladesh, online food delivery service.

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# Consumers' Food Delivery Apps (FDAs)

## Continuance Intention: An Empirical Investigation using the Extended UTAUT2 Model

Mohammad Alauddin <sup>α</sup> & Sume Akther <sup>σ</sup>

**Abstract-** Online food delivery applications (FDAs), a novel alternative marketing channel, have been extensively adopted by both enterprises and customers in the restaurant sector. Despite the changing consumer attitude towards FDA services, there is still a dearth of research on understanding consumers' continued intention to use FDA services in Bangladesh's expanding food delivery market, particularly after the COVID-19 pandemic. In order to achieve the goal, this study employed the widely used Extended Unified Theory of Acceptance and Use of Technology (UTAUT2). The model was tested and evaluated using partial least square structural equation modeling (PLS-SEM) on 350 respondents. According to the findings of the study, performance expectancy, social influence, facilitating conditions, hedonic motivation, price value, information quality, and convenience are all critical factors in maintaining the desire to utilize FDA services in Bangladesh. However, effort expectancy, habit, and time-saving were insignificant in the context of Bangladesh. This study contributes theoretically and practically to academics and practitioners working in areas related to online FDAs services.

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### 1. INTRODUCTION

Owing to the meteoric rise of the internet and digital communication technologies, mobile applications (apps) have become an integral component of modern life (Ahn, 2022; Kapoor & Vij, 2018). Online shopping through mobile apps has shaped people's lifestyles and society at large (Almarashdeh et al., 2019). The food delivery industry has expanded concurrently with technological advancement (Ahmed et al., 2015; Kapoor & Vij, 2018). The term "deliver" or "take-out" refers to "a service that delivers products, such as food, promptly after receiving customers' orders." At an earlier stage of the food delivery industry, telephone food ordering services were the standard means of restaurant delivery before the widespread use of mobile phones (Kimes, 2011). Of

late, digital transformation has resulted in a cascade of changes in all kinds of business operations (Erjavec & Manfreda, 2022). The food delivery industry has not been an exception to these reforms, as indicated by the increased usage of food delivery apps (FDAs) (Amin et al., 2020; Ramesh et al., 2023). Consumers only need a smart device (i.e., smart mobile phone or tablet) and an internet connection to download the FDAs to visit restaurants and order food (Michaeli, 2015). Online food delivery services are gaining popularity as they offer clients with greater flexibility and convenience, especially those who are engaged in a hectic work schedule from home or the office (Chotigo & Kadono, 2021). FDAs include many functions and features that allow users to think about and plan meals from various outlets while being free to continue working. A growing number of restaurants are also responsible for the expansion of the online food delivery market in Bangladesh (Janairo, 2021). This is because they have merged with and created new FDAs as new ways to reach potential customers and increase sales volume in the highly competitive restaurant market, which has more than 4,36,274 restaurants (Siddiqi, 2021). In contrast, consumers could use it to choose high-quality food without preparing the meal, going to a restaurant, or waiting for the food to be ready (Saad, 2020). Consumers do not need physical contact with the restaurant in the buying process, even making payments; they may do so entirely using a mobile app and have their food delivered directly to their homes (Rigby, 2011). Users can also compare offers from different restaurants, share their dining experience with pictures and videos, and give "likes" and feedback on these mobile apps (Javed et al., 2021).

Since the launch of the "HungryNaki" online meal delivery service in 2013, Bangladeshi consumers have continued to embrace FDA services (Ahmed, 2017). Over time, several FDAs have started doing business in Bangladesh (Bappy & Mirdha, 2021; Hossain, 2022). However, services like this started up in other parts of the world around the 2000s. According to Worldometer (2023), Bangladesh has 169.34 million people, and the population density is around 1,265 people per square mile. The Association of Mobile Telecom Operators of Bangladesh (AMTOB) reports 183.89 million mobile phone users; of those, 114.07

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million were Internet subscribers as of March 2023 (AMTOB, 2023). By 2025, there are predicted to be 62% of all mobile phone users who use a smartphone, up from the current rate of 41% (Bhuiyan, 2021). From 2023 to 2027, the e-commerce market in Bangladesh is anticipated to grow by 15.90%, resulting in a market volume of US\$15.24 billion by the end of that period (AMTOB, 2023). Moreover, about half of the people (50% of them) in the country are under 25 years old, and this demographic is primarily interested in eating out at restaurants and fast food establishments (Amin et al., 2020). Prior literature has mainly concentrated on evaluating the organizational outcome of online food delivery services (Mahmud, 2019; Miah et al., 2022; Neger & Uddin, 2020; Showrav et al., 2021; Sumi & Ahmed, 2022). Habib and Hamadneh (2021) and Dsouza and Sharma (2021) argued that changing lifestyles, increased disposable income, working pressure in daily life, and increased technology dependency may lead to the improving popularity of online food delivery services. According to a survey report by Bappy and Mirdha (2021), daily online food delivery was around 100,000 parcels together in two major cities (i.e., Dhaka and Chittagong). From 2023 to 2027, it is projected to grow by 21.29% in the online food delivery market of Bangladesh, resulting in a market volume of US\$2,106 million in 2027 (Statista, 2023). Thus, online food delivery service has indeed become more prevalent in Bangladesh since 2013. The available FDAs services in Bangladesh are HungryNaki, FoodPanda, Pathao Food, Shohoz Food, Khaas Food, Cookups, Foodfex, FoodMart, and Chaldal (Aryani et al., 2022; Maria, 2023).

Online food delivery services had a substantial impact on consumer behavioral intentions during the COVID-19 outbreak, especially among Bangladeshi urban consumers (Amit, 2020; Shankar et al., 2022). This is due to the fact that on March 26, 2020, Bangladesh implemented various restrictions on dine-in as part of the government's Movement Control Order (MCO) to prevent the spread of COVID-19 (Hassan, 2021). Resulting online food delivery services have become a lifeline for many restaurant businesses (Mehroli et al., 2021; Muangmee et al., 2021). The surge of online food orders and delivery has witnessed the popularity of FDAs in this global pandemic. FDAs have also emerged as the best choice for people who want to purchase meals in a contactless manner or who want to stay at home with their families. The shift in customer online habits may fuel the growth of the online retail industry in Bangladesh, including the online food delivery business (Bappy & Mirdha, 2021; Kader, 2020). Despite the shifting consumer behavior toward FDA services, the majority of earlier research studies have paid increased attention to the evaluation of organizational outcomes for online food delivery services (Chai & Yat, 2019; Saad, 2020). However, there

is still a lack of research on understanding consumer behavioral intention toward FDA services after the COVID-19 pandemic, especially in the growing food delivery market in Bangladesh (Musakwa & Petersen, 2023; Yapp & Kataraiyan, 2022). Hence, the purpose of the study is to identify the key determinants that may influence consumers for continued use motivations of FDAs services through the lens of the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) and subsequent extensions of the UTAUT2 (Slade et al., 2015; Venkatesh et al., 2012).

By addressing these gaps, our study adds three additional critical components to the model: information quality, convenience, and time-saving. Moreover, this research can shed light on the importance of consumer psychology in determining whether or not businesses will continue to offer FDA services after a pandemic, such as the one caused by the COVID-19 virus.

The following section of the paper goes through theoretical development and research hypotheses. The subsequent section covers the methodology, followed by the empirical findings and a discussion of the theoretical contributions and practical implications. Finally, the work concludes with limitations and implications for future research.

## II. LITERATURE AND HYPOTHESIS

### a) Food Delivery Applications (FDAs)

FDAs, which are a new type of online-to-offline service, connect diners with their favorite restaurants by bridging the gap between online ordering and in-person delivery services (Zhao & Bacao, 2020). FDA provides various options and enables consumers to order from various host restaurants directly through its mobile phone application (Pillai et al., 2022). There are two main types of FDAs, as described by Ray et al. (2019). First, there are the restaurants themselves, which include Pizza Hut, KFC, and Domino's Pizza. Second, third-party intermediate platforms are becoming increasingly popular and have been widely embraced in Bangladesh. Some examples of these platforms include FoodPanda, HungryNaki, Pathao Food, Chaldal, and Foodfex (Maria, 2023). Customers can choose from a variety of restaurant options and place their orders through an FDA service platform on their mobile phones. The restaurant is responsible for receiving the customer's order and preparing the food after it has been paid for (An et al., 2023; Novita & Husna, 2020). The order is then brought to the consumer by a delivery man. Customers can use the app to monitor the progress of their orders and communicate with the drivers who are delivering them (Chakraborty, 2022). Hence, FDA services eliminate waiting in line, traveling for pick-up, and miscommunication, which often occurs in restaurants and phone orders (Gani et al., 2023).

A clearer picture of the FDA's service quality emerged during the COVID-19 outbreak (Hong et al., 2021). Hasan et al. (2023) stated that most customers utilized FDAs to avoid interacting with staff members and stay away from people in places. Accordingly, Khosasih and Lisana (2023) and Gani et al. (2023) revealed that consumers' habits in terms of information-seeking and decision-making regarding ready-to-eat food have significantly changed over this period. Thus, the FDA has created a new consumer market by providing 24/7 services via its extensive business and service model (Hasan et al., 2023; Pillai et al., 2022). Numerous studies have been undertaken in recent years in order to investigate the underlying driving forces that are responsible for the adoption and use of mobile FDAs services. Food image, hedonic, utilitarian, perceived informativeness (Khosasih & Lisana, 2023), service quality, price value, delivery experience, and convenience (Hasan et al., 2023), online review content (Shah et al., 2023), information quality, ease of use, and various food choice (Bao & Zhu, 2022). In addition, aggressive discounts, fulfillment, and multiple payments (Pandey et al., 2022), expectation confirmation, perceived usefulness, dining attitude, e-satisfaction (Amin et al., 2020), delivery time, food conditions (Saad, 2020), societal pressure, customer experience, a searching of restaurants, quality control, listing (Ray et al., 2019), design, trustworthiness (Cho et al., 2019), and prior online purchase experience (Yeo et al., 2017).

Thus, the purpose of this study was to determine which aspects of the FDA's service technology best predict consumers' intentions to use a mobile food delivery service application. This study seeks to evaluate the UTAUT2 (Venkatesh et al., 2012) and some crucial determinants, including information quality, convenience, and time-saving, as they relate to consumers' continuous use intentions of FDA services.

#### b) *Continuance usage Intention*

In the field of consumer behavior, consumers usually go through an evaluation process before deciding whether or not to make a repeat purchase (Oliver, 1980). Zeithaml et al. (1990) argue that before making a purchase, consumers form impressions of a product or service based on their prior knowledge and experiences. Customers judge the quality of the service and evaluate it in relation to the standards they had set for it initially. In this way, behavioral intention measures how likely it is that a user will do a specific action in the future. Customers are more likely to make repeat purchases when they feel their experiences have been positive (Kupfer et al., 2016). According to Bhattacharjee et al. (2008) and Bhattacharjee and Lin (2015), the likelihood of people continuing to use a technological product or service is equivalent to their likelihood of repeat purchases. Even though well-known behavioral

models like the technology acceptance model (Davis, 1989) and the theory of planned behavior (Ajzen, 1991) have been used a lot to study what makes people accept new technological products and services, they can only explain users' behavior in the early stages of acceptance (Ambalov, 2018). Adoption and continuation of technology, in particular, are distinct actions both in terms of concept and over time (Bhattacharjee & Lin, 2015). Acceptance is an early stage of a person's experience with technology when they do not know anything about it. In later stages, other factors can affect a person's decision to keep using the technology (Arts et al., 2011; Kim & Malhotra, 2005). According to Bhattacharjee (2001) and Ambalov (2018), the long-term feasibility and success of new technology products or services are primarily dependent on their adoption and continued usage. This is true despite the fact that initial acceptance is an important factor. Consumers' persistent use of products or services, such as FDA services, can be better understood with the help of the UTAUT2 model (Santosa et al., 2021). As a result, it is critical to investigate UTAUT2's generalizability in various research contexts.

#### c) *Unified Theory of Acceptance and Use of Technology 2*

Many models, including the technology acceptance model (TAM) (Davis, 1989), the theory of planned behavior (TPB) (Ajzen, 1991), a combined TAM and TPB (Taylor & Todd, 1995), and innovation diffusion theory (IDT) (Rogers, 1995), have been developed and extensively tested to predict users' behavioral intention to use new technology systems. In particular, the unified theory of acceptance and use of technology (UTAUT) model, which was developed by Venkatesh et al. (2003), has been modified with eight theories/models of technology acceptance that are widely used in mobile technology adoption. This modification was made to understand better how people accept and use new technologies. In the first version of the UTAUT model, there were supposed to be four different independent variables or constructs. These were performance expectancy, effort expectancy, social influence, and facilitating conditions. According to Venkatesh et al. (2012), the primary objective of the development of UTAUT2 was to place emphasis on the use context of individual consumers. The original UTAUT literature measures intent to adopt, while UTAUT2 measures intent to continue using (Erjavec & Manfreda, 2022; Venkatesh et al. 2003). Three additional variables- habit, hedonic motivation, and price value-were examined in the extended UTAUT2 model from the perspective of an individual's information system adoption and use intention. Additionally, the moderated relationships between factors like gender, age, experience, and voluntariness of use were confirmed by the UTAUT2. This study assessed UTAUT2 and information quality,

convenience, and time-saving on users' continuance intention to use without including any moderating variables such as gender, age, experience, and voluntariness (Yap & Lee, 2023).

Table 1 presents a selected study on FDAs that attempted to apply UTAUT2 to understand the factors influencing customers' continued use of FDAs over the past few years. Researchers have mostly used the UTAUT theory as their main framework, but Musakwa and Petersen (2023) looked into UTAUT2, and Zhao and Bacao (2020) combined the task-technology fit mode and the expectancy confirmation theory into the UTAUT theory. Even though UTAUT is the underlying theory, not every researcher kept the original independent variables but instead added new variables to their research (Ali et al., 2023; Santos & Patiu, 2023). Venkatesh et al. (2012) revealed that UTAUT2 demonstrates significant results

in elucidating the essential determinants of an individual's continued technology use. Extending or adapting UTAUT2 to diverse research contexts and theories concentrating on a specific context is essential for a deep knowledge of the focal phenomenon (Venkatesh et al., 2012).

This research has largely concentrated on the multi-dimensional attributes of FDAs and the characteristics and behavior of users. Figure 1 depicts the seven factors (i.e., performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation and habit) proposed by Venkatesh et al. (2012) for the model of the current study. In addition to this, the same model will incorporate three more psychologically-related constructs, namely information quality, time-saving, and convenience.

*Table 1:* Studies on Online Food Delivery Apps (FDAs) using the UTAUT Theory

Relevant studies	Theoretical frameworks	Variables
(Musakwa & Petersen, 2023)	UTAUT2	PE, EE, SI, HM, PV, HB, FC, BI, UB
(Arora & Manchanda, 2023)	UTAUT2	PE, EE, SI, HB, PV, CI, CUI
(Ali et al., 2023)	UTAUT2	PE, EE, SI, PTR, MOUFA
(Santos & Patiu, 2023)	UTAUT2	IQ, PE, EE, SI, HM, FC, PV, HB, CUI, SAT,
(Ramos, 2022)	UTAUT2	EE, PE, food & beverage quality, and PV
(Taylor, 2021)	UTAUT2	PE, EE, SI, RK, TR, HM, PV, HB
(Alalwan, 2020)	UTAUT2	PE, EE, SI, FC, HM, PV, HB, ORV, ORT, OTR, SAT, CUI
(Zhao & Bacao, 2020)	UTAUT, ECM and TIF	PE, EE, SI, TR, TIF, COF, SAT, CUI

*"Note: Performance expectancy (PE), Effort expectancy (EE), Social influence (SI), Habit (HB), Price value (PV), Information quality (IQ), Hedonic motivation (HM), Facilitating conditions (FC), Trust (TR), Motivation to use food apps (MOUFA), Perceived Trust (PTR), Perceived safety (PSF), Task-technology fit (TIF), Confirmation (COF), Satisfaction (SAT), Continuance usage intention (CUI), Consumer innovativeness (CI), Online review (ORV), online rating (ORT), and online tracking (OTR), Behavioral intention (BI), Use behavior (UB), Risk (RK)."*

#### i. Performance Expectancy

Performance expectancy was defined by Venkatesh et al. (2003) as "how much the use of technology in specific activities will benefit consumers." According to Alalwan (2020), performance expectancy refers to the perceived utility and benefits of a particular technology perceived by consumers to facilitate their tasks or activities productively. When consumer perceive that a new technology will save them more time and effort than its predecessor, they are more likely to implement it. Therefore, the greater the perception that the utility and benefits of FDAs can enhance their lifestyles, the greater the intent to continue accepting and utilizing FDA services. Users are more likely to continue using a new app if it provides information more conveniently.

Performance expectation is synonymous with perceived usefulness and is also a major predictor of user behavioral intention (Holden & Karsh, 2010; Marangunić & Granić, 2015). Prior empirical studies have demonstrated a substantial association between

performance expectations and continuance usage intention in domains such as mobile food ordering apps (Ramos, 2022), e-payment adoption (Santosa et al., 2021), and online games (Xu, 2014). Personalization in online food delivery apps corresponds to how appropriately and conveniently users can accomplish tasks such as navigating, selecting, and ordering foods, as performance expectancy is related to technology assisting in completing tasks vigorously and more quickly (Cheng et al., 2020). If consumers are presented with high-quality food photographs and relevant food content, their demand for more information and time to make judgments will be minimized, resulting in improved performance. Consequently, if users find online food delivery services via mobile applications useful, they are more likely to continue using them (Amalia, 2019; Khalil et al., 2020). As a result, the following hypothesis is proposed:

*H1:* Performance expectancy positively influences the continuous usage intention of FDA services.



ii. *Effort Expectancy*

Effort expectancy is defined as the degree to which customers' perceived ease is connected with the usage of a given technology (Venkatesh et al., 2012). In the TAM paradigm, effort expectancy corresponds to perceived ease of use. Perceived ease of use of technology can encourage users to engage more with it (Okumus et al., 2018), but complexity can reduce users' intent to embrace or reuse it. Users in FDAs may order food without the intervention of restaurant or café employees. The design and structure of an FDA may improve consumers' capacity to process food orders and delivery in a timely and efficient manner (Gunden et al., 2020). As a result, the FDA's services are regarded as simple technology with a few steps in food ordering and multiple payment choices. Thus, effort expectancy is an essential factor significantly affecting users' behavioral intentions (Gunden et al., 2020; Saad, 2020). The greater the perceived ease of use of the FDA service, the more likely consumers would continue to use it beyond the initial adoption (Cho et al., 2019; Koiri et al., 2019; Pigatto et al., 2017; Roh & Park, 2019). A customer's willingness to continue using mobile food delivery apps may be influenced by their view of their simplicity and convenience of use, particularly after using the apps for a long time. The following hypothesis was developed based on the literature:

*H2: Effort expectancy positively influences the continuous usage intention of FDA services.*

iii. *Social Influence*

Social influence is the extent to which users acquire willingness from the encouragement and support of their family members, peers, friends, and coworkers in deciding whether or not they will continue to utilize an application (Venkatesh et al., 2003). When users are encouraged and motivated by those near to them whose opinions they value, they develop an intention toward technology (Singh et al., 2020). Customers are more likely to consult their social network to obtain information about new technologies or social support to continue using them. Studies have demonstrated and empirically established the significance of social influence in predicting users' intention to continue using mobile wallet services (Singh et al., 2020), fitness apps (Dhiman et al., 2020), and online games (Xu, 2014).

Moreover, social influence may emerge when users begin comparing their opinions to those of others in the same social group (Khatimah et al., 2019). Regarding FDAs, users continue to use these applications if they receive social validation from their peers and family. According to Choi et al. (2014), the identification of friends or neighbors with the same predictions in recommendation systems can substantially affect users' attitudes toward new technologies. Consequently, it was hypothesized that:

*H3: Social influence positively influences the continuous usage intention of FDA services.*

iv. *Facilitating Condition*

Facilitating condition refers to the degree to which an individual perceives that organizational and technical infrastructure supports the use of new technology (Venkatesh et al., 2003). Facilitating conditions also include the customers' perceptions of available resources and support (i.e., the system's access to instruction, guidance, and assistance) to perform the behavior (Nysveen & Pedersen, 2016). According to Zhang et al. (2011), facilitating conditions also play a significant role in determining the intention to continue using FDA services.

Users are more likely to stick with FDAs and less likely to switch services if they find the app's supporting features to be to their liking (Agarwal & Sahu, 2022). In order to make using FDAs more pleasurable, it may be proposed that customers think about an appropriate level of technological, operational, infrastructural, and human assistance (Osei et al., 2021). This led to the following hypothesis:

*H4: Facilitating conditions positively influence the continuous usage intention of FDA services.*

v. *Hedonic Motivation*

Hedonic motivation is intrinsic and is connected to users' desire, entertainment, and pleasure after the experiences of using the products or services (Alalwan, 2020). It is also viewed as a critical influencer of consumers' intention to use new technology (Brown & Venkatesh, 2005). From an online food delivery service perspective, mobile delivery apps enable users to enjoy their favorite food without leaving their houses or workplaces. They may have their food delivered to their doorsteps.

If users enjoy using FDA services, it may encourage them to continue using them (Rasli et al., 2020). However, hedonic motivation is subjective; consumers can generate hedonic value through sensory, imaginative, and emotional experience-based pleasure during the buying process, influencing consumers' continuance usage intention towards FDA services (Rasli et al., 2020). Therefore, it was hypothesized that:

*H5: Hedonic motivation positively influences the continuous usage intention of FDA services.*

vi. *Price Value*

The price value is the "consumers' cognitive exchange between perceived benefits of the applications and monetary cost for using them" (Venkatesh et al., 2012). Price value positively impacts intention to use as the advantage of technology use is more than currency benefits. Mobile app users usually consider the monetary amount incurred when they use the application. The relative advantage of online



shopping is that it enables consumers to browse at different sites to compare prices, thus allowing them to purchase at a better bargain (Chiu et al., 2014). Thus, price value portrays the perceived benefits of using the app versus the monetary costs incurred using the app (Shaw & Sergueeva, 2019).

Additionally, Venkatesh et al. (2012) concluded that a positive price value could affect behavioral intention positively. Price value follows the ideas of perceived value (Venkatesh et al., 2012). Price value positively influences intention to use when the benefits of technology use are perceived to outweigh the monetary costs. The significant influence of perceived value over intention has been provided in some studies (Baabdullah et al., 2014). Regarding food delivery apps, consumers will use FDAs for a long time if the benefits are greater than the financial sacrifice. This is in line with the research from Hew et al. (2015), who described that price value influences behavioral intention. Alalwan (2020) showed that price is essential in attracting consumers and that particular quality value benefits the intention to reuse mobile food delivery apps. Jain et al. (2018) indicated that among the responsible factors of FDAs, signals and price fluctuations, discount offers, availability of comparative prices, and ease of choice are the prime exhibits. Rasli et al. (2020) found that attractive discounts, rewards, and cashback offers are also important factors that increase the popularity of the FDA service. In addition, mobile FDAs form alliances with restaurants, providing consumers with better promotional offers and tempting incentives as an alternative to physically dining at these locations. Hence, the following hypothesis is proposed:

**H6:** Price value positively influences the continuous usage intention of FDA services.

#### vii. *Habit*

Habit is spontaneous tendencies performed automatically through learning (Limayem et al., 2007). Habit is a behavioral preference in the present, whereas intended use indicates the specific behavioral intention referring to future activities. Most habitual behavior of customers arises spontaneously and proceeds efficiently, effortlessly, and unconsciously due to their collected learning experience (Aarts et al., 1998). Research on habitual intentions has shown that habit has been a crucial factor in the potential adoption and usage of technology to facilitate behavioral improvements (Amoroso & Lim, 2017; Lee et al., 2019; Liao et al., 2006; Venkatesh et al., 2012).

In addition, when consumers are familiar with the FDA services, habits or past learning experiences may positively influence their continuous usage intention of FDAs (Chopdar & Sivakumar, 2019; Palau-Saumell et al., 2019). Thus, the following hypothesis proposes that:

**H7:** Habit positively influences the continuous usage intention of FDA services.

#### viii. *Information Quality*

Information Quality (IQ) refers to the level of accuracy and consistency of the information provided by a firm related to its direction and product and service offerings (Zhou, 2011). Kaium et al. (2020) denoted that information quality describes various dimensions, including accuracy, currency, completeness, relevance, efficiency, scope, and timeliness. It is a vital determinant of a website's quality. Better information quality may provide enjoyment and positive behavioral intention (Santos & Patiu, 2023). In contrast, the poor quality of information may significantly affect business processes and causes client dissatisfaction (Rana et al., 2023). Very few studies have been conducted on the influence of information quality on continuance intention, especially in online food delivery services (Khalil et al., 2020; Nguyen et al., 2023; Rasli et al., 2020). Prasetyo et al. (2021) showed that users consider the basic features of FDAs and desire complete and updated information before their use. Lee et al. (2020) conducted a study on food safety push notifications and revealed that information quality significantly influences continuance usage intention. Information quality represents the foremost essential communication capability between a customer and a merchant and is thought to be the foundation for building trust (Zhou, 2013). Based on previous literature, the following statement was hypothesized:

**H8:** Information quality positively influences consumers' continuance usage intention of FDA services.

#### ix. *Time-Saving*

Society is preoccupied with everyday activities and faces time constraints. As a result, items or services that can save them time are selected. In the context of FDA services, consumers perceive time savings as a critical element for measuring service quality (Banerjee et al., 2019). Users do not need to travel to a restaurant or café for meals or to wait in a restaurant for food to be given to them when they use FDAs (Chopdar & Sivakumar, 2019). Furthermore, time savings may raise a user's sense of self-control, which has been proven to increase the chance of continuing meal delivery apps in the future (Chai & Yat, 2019; Yeo et al., 2017). As a result, the following theory is proposed:

**H8:** Time-saving will positively influence the continuous usage intention of FDA services.

#### x. *Convenience*

In simple terms, convenience is the time and effort required to obtain a service or purchase a product (Copeland, 1923). Convenience has been determined to play a critical role in creating customer choice for technology, as evidenced by the available literature (Chotigo & Kadono, 2021; Ozturk et al., 2016). Convenience is also known as the perceived benefit of mobile apps (Xu et al., 2019). In the context of mobile food delivery apps, the app allows users to order food

anytime and anywhere. Not to mention that the food is subsequently delivered right to their doorsteps. Because of these factors, it encourages the user to reuse the application occasionally. According to Shah et al. (2021), they discovered that convenience significantly

influenced consumers' continuing intention. As a result, the following hypothesis is offered.

*H10*: Convenience positively influences the continuous usage intention of FDA services.

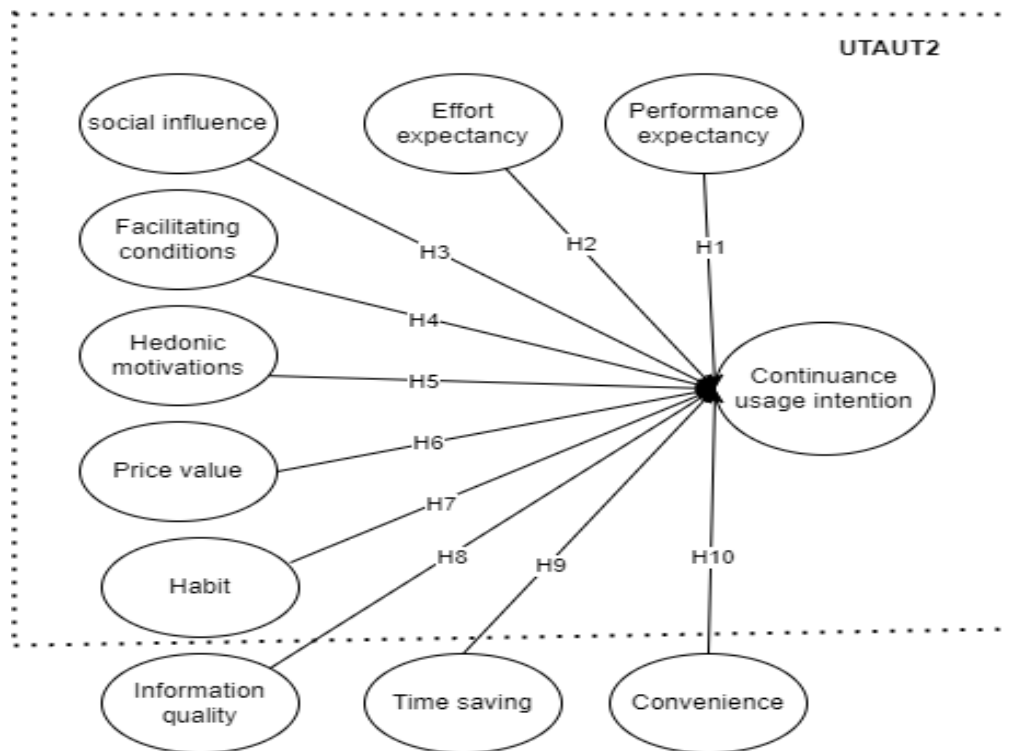


Fig. 1: The Conceptual Model

### III. METHODOLOGY

#### a) Sampling and Data Collection

This study concentrated exclusively on food delivery applications FDAs service users residing in urban areas in Bangladesh. Due to time and resource constraints, the study adopted a convenience sampling method within a non-probability sampling technique, namely purposive sampling (Malhotra, 2010). Respondents who used an FDA and purchased food from it were eligible for this study. For this study, "Google Forms" was used to create an online questionnaire containing demographic and measurement items. The items of the questionnaire were originally written in English and then translated into Bengali using the back-translation process (Amin et al., 2020). The respondents communicated through Facebook and WhatsApp. We sent the questionnaire link to many Facebook and WhatsApp groups, such as faculty and student groups at Chittagong University, along with a cover letter to ensure the expediency of responding.

Moreover, the study utilized the snowballing technique by requesting respondents to forward the link to their personal Facebook pages and WhatsApp

groups to get the maximum number of respondents (Taylor, 2021; Wang et al., 2019). The survey was open for one month, from January 15 to February 15, 2023. The G-Power program was used for the study, and a sample size of 140 respondents (at a minimum) was suggested. There were a total of 380 respondents participated in the survey. After excluding the incomplete responses, 350 (response rate of 54%) were chosen for data analysis.

Among them, 147 (42%) were men, and 203 (58%) were women. In terms of age, 79 respondents (22.57% of them) are below 24 years old, the majority, 182 respondents (52.43% of them) were between 25 and 39 ages, 16% of respondents were between 40 and 59 ages and the remaining 10% are above 60 years old. More than half of the respondents were unmarried. Only 26 respondents had a secondary level, 104 respondents had a higher secondary level, and 165 respondents had a university level of education. Almost all respondents had a monthly income of at least 20,000 to 39,000 BDT. Regarding occupation, students were 78, and 46.29% of respondents were government employees and professional job holders, respectively. With regards to frequency of FDAs use, the majority, 127 respondents (36.29% of them) reported above nine times in a month,

98 respondents (28% of them) used 7 to 8 times, and only 4% of them used one or two times in a week. In terms of FDAs used, the majority of respondents reported FoodPanda, HungryNaki, and Pathao Food 23.14%, 15% used, and 13%, respectively, only 2.58%

used other than these food delivery apps. Regarding respondents' FDA use experience, 245 respondents (70%) had been using FDAs for up to 2 years. The demographic profile of the respondents is shown in Table 2.

Table 2: Demographic Profile of Respondents (n = 350)

Variables	Characters	Number	Percentage (%)
Gender	Male	147	42
	Female	203	58
Age	24 yrs. and Below	79	22.57
	25-39 yrs.	182	52.43
	40-59 yrs.	56	16
	60 yrs. and above	35	10
Marital status	Single	195	55.71
	Married	155	44.29
Educational level	Secondary level	26	7.42
	Higher Secondary level	104	29.71
	University	165	47.14
	Other	55	15.71
Monthly income	Below Tk. 20,000	27	7.71
	Tk. 20,000-39,000	144	41.14
	Tk. 40,000-59,000	104	29.71
	Above Tk. 60,000	75	21.43
Occupation	Student	78	22.29
	Office worker	23	6.57
	Sales & Service	54	15.43
	Government employee	75	21.43
	Professional job	87	24.86
	Self-employed	20	5.71
	Housewife	9	2.57
	Other	4	1.14
Frequency of FDAs use per week	1-2 times	14	4
	3-4 times	43	12.26
	5-6 times	68	19.43
	7-8 times	98	28
	Above 9 times.	127	36.29
FDAs	HungryNaki	54	15.43
	FoodPanda,	81	23.14
	Pathao Food,	48	13.71
	Shohoz Food,	32	9.14
	Khaas Food,	25	7.14
	Cookups,	14	4
	Sheba Food,	13	3.71
	Foodfex	24	6.86
	FoodMart	17	4.86
	Chaldal	33	9.43
	Other	9	2.58
Use experience	Up to 1 yr.	56	16
	1-2 yrs.	189	54
	More than 2 yrs.	105	30

Note: n = 350, 1US\$ = 110 BDT, FDAs = Food delivery Applications

#### b) Research Instrument

To verify the content validity of the survey instruments, two faculty members from the University of the First Author who have substantial experience with survey measurements examined them. In response to their criticism, some of the items' wording was modified.

In order to mitigate the risk associated with measurement errors, a pilot study was conducted on 20 FDA users in Bangladesh. Several elements of the pre-test were modified slightly to improve their legibility and readability. We employed a five-point Likert scale ranging from "1 = strongly disagree" to "5 = strongly

agree" to measure the items for the latent constructs. All of the items were derived from previous research. Table A1 lists the study items. The questionnaire contained 25 items previously developed and designed to assess the perception of online food delivery services applications, such as performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation, and habit (Venkatesh et al., 2012), 11 items were used to assess the information quality (Lee et al., 2019), time-saving (Yeo et al., 2017) and convenience (Chotigo & Kadono, 2021). Three items were used to assess continuance usage intention (Cho et al., 2019).

#### IV. DATA ANALYSIS

The descriptive statistics of a demographic profile were examined using the SPSS 25 packages, and the partial least squares structural equation modeling (PLS-SEM) with SmartPLS (SEM) version 3.2.8 was used to quantify the association between the variables. According to Hair Jr et al. (2017), one of the most prominent advantages of the PLS-SEM approach is that it possesses a strong predictive capacity for endogenous target variables, which is especially useful in highly completed models.

##### a) Common Method Bias

Because the data for this study came from a single source (an experienced user), there is a chance

of common method bias (CMB), which involves measuring both dependent and independent variables. Also, the study focused on statistical and methodological fixes before and after data collection to reduce the possibility of variance. Harman's single-factor test was used to figure out the CMB. In the principal component factor analysis, 11 of the factors had Eigen values that were greater than 1.0. These eleven factors explained 61% of the variance. Also, the first factor did not explain most of the variance (29.43%). Based on the results, we can conclude that the CMB is not an issue for this research (Podsakoff & Organ, 1986).

#### V. RESULT

##### a) Measurement Model

We examined construct reliability, composite reliability, convergent validity, and discriminant validity using the approaches proposed by Hair et al. (2017). Composite reliability (CR), Cronbach's alpha greater than 0.7, and roh\_A near 1.00 are indicative of high consistency (Hair et al., 2017). Table 3 demonstrates that the eleven constructs met the criteria for internal consistency. To show convergent validity, the value of the average variance extracted (AVE) should be greater than 0.5. This means that constructs are responsible for more than 50% of the items in the suggested model (Hair et al., 2017). All of the latent variables attained convergent validity because their AVEs exceeded the 0.5 threshold (Table 3).

Table 3: Construct Reliability and AVE

Construct	CR	Cronbach's Alpha	Roh_A	AVE
CUI	0.797	0.879	0.815	0.523
PE	0.743	0.821	0.893	0.596
EE	0.801	0.911	0.967	0.667
SI	0.845	0.823	0.852	0.684
FC	0.783	0.846	0.812	0.521
HM	0.861	0.934	0.943	0.679
PV	0.754	0.784	0.921	0.583
HB	0.732	0.847	0.891	0.563
IQ	0.869	0.880	0.901	0.642
TS	0.812	0.921	0.957	0.691
CO	0.799	0.847	0.881	0.562

Note: CUI= Continuance Usage Intention; PE = Performance Expectancy; EE = Effort Expectancy; SI = Social Influence; FC = Facilitating Conditions; HM = Hedonic Motivation; PV = Price Value; HB = Habit; TS = Time Savings; CO = Convenience; IQ = Information Quality; AVE = Average Variance Extracted; CR = Composite Reliability.

Table 4 presents an illustration of the Fornell and Lacker criteria for demonstrating discriminant validity (Fornell & Larcker, 1981). In order to accomplish this, we compared the square root of the average variance extracted (AVE) of each construct and the correlation of coefficients with other constructs. According to Hair et al. (2017), in the correlation matrix,

the diagonal values (square root of AVE) must be greater than the off-diagonal values (the variables' correlations). The evidence presented in Table 4 demonstrated that all of the diagonal values were superior to the values that were found outside of the diagonal. As a consequence of this, the discriminant validity of the study constructs was demonstrated to

have been verified by the data. Additionally, Hair et al. (2017) recommended that factor loadings higher than 0.50 are acceptable. Table 5 shows that all of the items in each construct had scores between 0.740 and 0.891.

Table 4: Discriminant validity Fornell and Lacker Criteria

Endogenous Variables	CUI	PE	EE	SI	FC	HM	PV	HA	IQ	TS	CO
CUI	<b>0.881</b>										
PE	0.471	<b>0.864</b>									
EE	0.594	0.623	<b>0.898</b>								
SI	0.385	0.457	0.624	<b>0.82</b>							
FC	0.319	0.512	0.405	0.502	<b>0.861</b>						
HM	0.688	0.348	0.555	0.3	0.675	<b>0.825</b>					
PV	0.432	0.451	0.311	0.231	0.411	0.49	<b>0.834</b>				
HT	0.213	0.392	0.347	0.457	0.546	0.561	0.356	<b>0.823</b>			
IQ	0.349	0.451	0.411	0.511	0.299	0.43	0.501	0.433	<b>0.891</b>		
TS	0.435	0.504	0.451	0.485	0.211	0.22	0.461	0.368	0.308	<b>0.862</b>	
CO	0.342	0.281	0.234	0.51	0.343	0.431	0.21	0.452	0.611	0.541	<b>0.873</b>

Note: CUI= Continuance Usage Intention; PE = Performance Expectancy; EE = Effort Expectancy; SI= Social Influence; FC = Facilitating Conditions; HM = Hedonic Motivation; PV = Price Value; HB = Habit; IQ = Information Quality; TS = Time Savings; CO = Convenience.

Table 5: Cross Loading

	CUI	PE	EE	SI	FC	HM	PV	HA	IQ	TS	CO
CUI 1	<b>0.842</b>	0.297	0.298	0.509	0.254	0.359	0.533	0.28	0.476	0.407	0.255
CUI 2	<b>0.837</b>	0.293	0.271	0.552	0.267	0.32	0.538	0.28	0.53	0.45	0.311
CUI 3	<b>0.845</b>	0.343	0.286	0.562	0.264	0.386	0.561	0.307	0.559	0.476	0.323
PE1	0.316	<b>0.854</b>	0.298	0.498	0.292	0.355	0.56	0.293	0.474	0.405	0.31
PE 2	0.271	<b>0.74</b>	0.286	0.397	0.206	0.37	0.484	0.29	0.374	0.249	0.184
PE 3	0.302	<b>0.841</b>	0.295	0.294	0.057	0.204	0.237	0.127	0.243	0.184	0.181
PE 4	0.357	<b>0.886</b>	0.305	0.316	0.111	0.192	0.295	0.173	0.229	0.195	0.209
EE 1	0.297	0.298	<b>0.87</b>	0.271	0.082	0.125	0.25	0.179	0.217	0.187	0.175
EE 2	0.297	0.292	<b>0.859</b>	0.299	0.028	0.169	0.261	0.197	0.302	0.172	0.195
EE 3	0.282	0.259	<b>0.849</b>	0.319	0.034	0.18	0.287	0.206	0.266	0.193	0.188
EE 4	0.317	0.337	<b>0.873</b>	0.361	0.042	0.218	0.3	0.176	0.355	0.238	0.203
SI 1	0.557	0.308	0.344	<b>0.891</b>	0.206	0.371	0.476	0.271	0.503	0.474	0.394
SI 2	0.526	0.297	0.305	<b>0.848</b>	0.195	0.36	0.455	0.283	0.444	0.417	0.391
SI 3	0.517	0.278	0.335	<b>0.857</b>	0.221	0.338	0.478	0.296	0.501	0.43	0.394
FC 1	0.519	0.289	0.328	0.21	<b>0.851</b>	0.395	0.488	0.33	0.432	0.437	0.413
FC 2	0.204	0.039	0.005	0.158	<b>0.775</b>	0.044	0.172	0.042	0.17	0.018	0.052
FC 3	0.216	0.06	0.079	0.203	<b>0.76</b>	0.13	0.223	0.093	0.219	0.077	0.069
FC 4	0.274	0.114	0.035	0.227	<b>0.783</b>	0.065	0.233	0.115	0.215	0.155	0.091
HM 1	0.277	0.094	0.032	0.19	0.076	<b>0.808</b>	0.195	0.039	0.207	0.051	0.067
HM 2	0.242	0.064	0.008	0.163	0.067	<b>0.793</b>	0.155	0.042	0.246	0.041	0.088
HM 3	0.37	0.148	0.157	0.351	0.1	<b>0.811</b>	0.316	0.212	0.303	0.176	0.189
PV 1	0.33	0.157	0.178	0.36	0.091	0.216	<b>0.796</b>	0.132	0.269	0.177	0.123
PV 2	0.34	0.18	0.207	0.341	0.061	0.327	<b>0.833</b>	0.172	0.263	0.158	0.19
PV 3	0.35	0.155	0.17	0.326	0.085	0.31	<b>0.824</b>	0.154	0.281	0.14	0.138
HB 1	0.383	0.187	0.195	0.365	0.064	0.23	0.345	<b>0.837</b>	0.281	0.157	0.174
HB 2	0.563	0.237	0.245	0.421	0.235	0.301	0.329	<b>0.83</b>	0.404	0.321	0.35
HB 3	0.555	0.297	0.316	0.516	0.209	0.319	0.382	<b>0.858</b>	0.547	0.352	0.406



HB 4	0.574	0.191	0.212	0.316	0.239	0.329	0.123	<b>0.823</b>	0.443	0.255	0.304
IQ 1	0.573	0.264	0.284	0.463	0.188	0.342	0.434	0.339	<b>0.852</b>	0.39	0.358
IQ 2	0.499	0.214	0.26	0.448	0.213	0.287	0.505	0.325	<b>0.828</b>	0.352	0.336
IQ 3	0.29	0.151	0.179	0.286	0.089	0.189	0.359	0.179	<b>0.859</b>	0.226	0.2
IQ 4	0.312	0.117	0.19	0.286	0.07	0.194	0.34	0.189	<b>0.876</b>	0.246	0.182
TS 1	0.323	0.199	0.2	0.284	0.076	0.172	0.364	0.234	0.266	<b>0.829</b>	0.162
TS 2	0.275	0.161	0.194	0.314	0.056	0.203	0.335	0.222	0.24	<b>0.856</b>	0.202
TS 3	0.535	0.243	0.312	0.497	0.221	0.303	0.505	0.231	0.371	<b>0.887</b>	0.365
TS 4	0.504	0.239	0.315	0.472	0.237	0.289	0.506	0.246	0.377	<b>0.89</b>	0.354
CO 1	0.527	0.222	0.33	0.481	0.264	0.314	0.486	0.205	0.338	0.382	<b>0.879</b>
CO 2	0.402	0.174	0.22	0.408	0.092	0.121	0.352	0.257	0.348	0.195	<b>0.819</b>
CO 3	0.37	0.154	0.186	0.373	0.018	0.129	0.331	0.218	0.333	0.231	<b>0.808</b>

Note: CUI= Continuance Usage Intention; PE = Performance Expectancy; EE = Effort Expectancy; SI= Social Influence; FC = Facilitating Conditions; HM = Hedonic Motivation; PV = Price Value; HB = Habit; IQ = Information Quality; TS = Time Savings; CO = Convenience

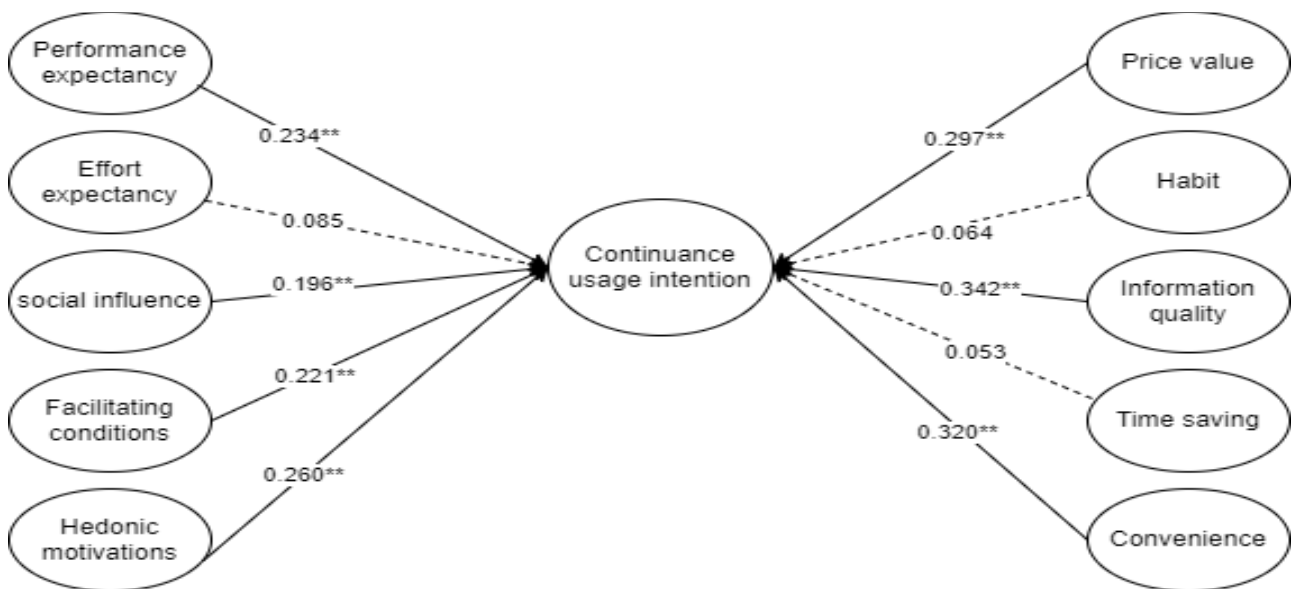
#### b) The Structural Model

After assessing the measurement model, the investigators evaluated the structure model. The structural model was verified by the coefficient of determinations (squared multiple correlations,  $R^2$ ), the strength of the effect ( $f^2$ ), and the significance level of the path coefficient, as suggested by Hair et al. (2017). A total of 5,000 bootstrap samples were used to construct t-statistics and confidence ranges.

Table 6 demonstrates that all variables' variance inflation factor (VIF) evaluations were less than 5 (Hair et al., 2019).  $R^2$  must be greater than the value of 0.20 to be considered the model sufficient. In this study, the model explained (58.3%) the variation in continuance intention ( $R^2 = 58.3\%$ ). Since the  $R^2$  is higher than 0.45, the model used in this study has moderate explanatory power (Hair et al., 2019). Except for effort expectancy, habit, and time-saving, none of the variables exceeded the lower and upper confidence levels. In addition, it is essential to determine whether the exogenous constructs of performance expectancy, social influence, facilitating condition, hedonic motivation, price value, information quality, and convenience significantly influence the endogenous constructs.

Following Chin (1998) and Henseler et al. (2015), we examined the effect sizes (Cohen's  $f^2$  value) to determine the significance of the effect size strength for the independent variables. This was measured using Cohen's (1988) criteria for effect sizes ( $f^2$ ), with 0.02 representing a small impact, 0.15 representing an average effect, and 0.35 representing a significant effect. All  $f^2$  values in this study were well above the minimum threshold of 0.02. The Q2 value for continuance usage intention (0.222) was greater than zero, indicating the model has adequate predictive validity.

Table 6 shows that the results of the path coefficient showed that performance expectancy (H1:  $\beta = 0.234$ ,  $p < 0.001$ ); Social influence (H3:  $\beta = 0.196$ ,  $p < 0.001$ ); facilitating conditions (H4:  $\beta = 0.221$ ,  $p < 0.001$ ); hedonic motivation (H5:  $\beta = 0.260$ ,  $p < 0.001$ ); price value (H6:  $\beta = 0.297$ ,  $p < 0.001$ ); information quality (H8:  $\beta = 0.342$ ,  $p < 0.001$ ); and convenience (H10:  $\beta = 0.320$ ,  $p < 0.001$ ) are the factors that are significant and have a positive influence on users' continuance intention towards food delivery apps (FDAs) except for effort expectancy (H2:  $\beta = 0.234$ ,  $p < 0.093$ ); habit (H7:  $\beta = 0.064$ ,  $p < 0.083$ ); time savings (H9:  $\beta = 0.053$ ,  $p < 0.073$ ). The structural model of the study is depicted in Figure 2.



Note: \* $p < 0.05$ , \*\* $p < 0.001$ . Non-Significant Paths are Shown in Dotted Lines.

Fig. 2: The structural Equation Model with Parameter Estimates

Table 6: Result of Structural Model Analysis

Hypotheses	Relationship	Path Coefficient ( $\beta$ )	T-value	P-value	f <sup>2</sup>	Decision	VIF
H1	PE→CUI	0.234	3.563	0.001	0.020	Accepted	2.301
H2	EE→CUI	0.085	1.415	0.093	0.001	Rejected	1.675
H3	SI→CUI	0.196	2.341	0.001	0.023	Accepted	2.121
H4	FC→CUI	0.221	3.672	0.001	0.033	Accepted	2.232
H5	HM→CUI	0.26	4.121	0.001	0.022	Accepted	1.752
H6	PV→CUI	0.297	3.870	0.001	0.051	Accepted	2.451
H7	HT→CUI	0.064	1.231	0.083	0.021	Rejected	2.231
H8	IQ→CUI	0.342	5.342	0.001	0.024	Accepted	1.933
H9	TS→CUI	0.053	1.116	0.073	0.012	Rejected	1.578
H10	CO→CUI	0.32	4.360	0.001	0.031	Accepted	1.678

Note: CUI= Continuance Usage Intention; PE = Performance Expectancy; EE = Effort Expectancy; SI= Social Influence; FC = Facilitating Conditions; HM = Hedonic Motivation; PV = Price Value; HB = Habit; IQ = Information Quality; TS = Time Savings; CO = Convenience.

## VI. DISCUSSION AND IMPLICATIONS

### a) Discussion

The purpose of the present study was to evaluate the impact of 10 critical determinants of the extended UTAUT2 and an additional three factors (i.e., information quality, time-saving, and convenience) on consumers' intention to continue using FDA services after the COVID-19 pandemic, particularly in the context of Bangladesh. The findings of the study showed that performance expectancy, social influence, facilitating conditions, hedonic motivation, price value, information quality, and convenience positively influence users' continuance intention to use FDAs. These results are also supported by previous researchers, for instance, performance expectancy (Santos & Patiu, 2023), social

influence (Santos & Patiu, 2023), facilitating conditions (Cheng et al., 2020), hedonic motivation (Rasli et al., 2020), price value (Rasli et al., 2020; Santos & Patiu, 2023), information quality (Rasli et al., 2020), convenience (Yapp & Kataraian, 2022).

In this study, however, users' continuous usage intention is not influenced by users' effort expectancy (Okumus et al., 2018; Rasli et al., 2020; Santos & Patiu, 2023) habit, and time-saving orientation (Koiri et al., 2019). The effort expectancy was found to be non-significant due to the fact that the majority of participants have a high level of education and, as a result, exert less effort in operating the FDAs. The majority of the survey respondents were between the ages of 25 and 39, making them members of a generation that is familiar with mobile applications and

technology. As a result, individuals who utilize food delivery apps do not require a great deal of effort expectancy or habit. On the other hand, it was determined that the amount of time saved was inconsequential as a result of the delays experienced by the meal delivery service. Because of the country's notoriously poor traffic system, it may take up to an hour for a consumer in Bangladesh to receive an order. Therefore, enterprises that provide meal delivery services ought to be aware of how much time clients spend using their apps and how much effort they exert. If food delivery service providers are able to meet the expectations of their clients, those clients will become aware of the benefits offered by the provider's services, and they will feel content with those services. This will also add value to the enterprises.

#### b) *Theoretical Implications*

The current study contributes to the growing corpus of literature investigating the usage of FDAs (Shah et al., 2023) and the UTAUT2 theory in the hospitality field. Theoretically, this study confirms several crucial constructs of UTAUT2 in the context of Bangladesh, including PE, SI, FC, HM, and PV. However, we found no significance in the EE and HT constructs. Moreover, this study added three additional determinants to the UTAUT2 model: time-saving (TS), information quality (IQ), and convenience (CO). By adding these three determinants, it is also confirmed that information quality and convenience contribute to continued usage intention. However, time-saving was revealed as an insignificant factor for the continued use of FDAs, an essential contribution of this study. In addition, this study contributes to the literature on online food delivery services, and its framework can be used as a basis for future research in the food delivery service industry. We also conducted a comprehensive literature review, which revealed that no analogous research had been conducted in the context of Bangladesh. Numerous studies were discovered in the neighboring nations, for instance, in Vietnam (Nam et al., 2021), Thailand (Jaroenwanit et al., 2022), Malaysia (Yapp & Kataraiyan, 2022), India (Bhotvawala et al., 2016).

#### c) *Practical Implications*

In addition to theoretical contributions, this study provides practical implications for the FDAs developers, restaurant delivery service organizations, and the hospitality industry regarding the factors that should be considered in designing and marketing FDAs. The first implication of the findings is that quality information about FDAs induces customers to stick with using FDAs in the long run. Information such as food variety and quality, restaurant variety, price comparison of similar items, promotional marketing information, review of the restaurant's quality, choice of delivery brands, multiple payment systems, and more are critical to keeping customers loyal to FDAs. Second,

convenience persuades customers to order food using FDAs continuously. Easy searching for quality food, for instance, suggesting the food ordered by the highest number of customers, reduction of risk in payment system, contactless order and payment, home delivery, and more should be considered while developing FDAs. Third, time saving is another important determinant for the continuance usage intention of FDAs. Quick ordering, prompt payment, speedy delivery, and swift navigation systems would save customers time. Thus, FDAs developers and food delivery organizations should consider these issues to keep their current users. Fourth, hedonic motivation is another influential factor for customer retention. The visual appeal of the website, pretty presentation of the food products in images, text, and video, gamification in the FDAs, hyper-link for broad information, celebrity endorsement of products, live product presentation through social media, and more can ensure the hedonic motivation of customer for continuous use of FDAs (Barua, 2022). Fifth, app developers may create long-term customer relationships by guiding healthy eating habits. For this, developers may include services such as monitoring calorie intake, preserving records of nutrition consumed, and enabling consumers to set their daily nutrition targets.

### VII. LIMITATION AND FURTHER STUDY

Although this study presents noteworthy theoretical and practical advances, it remains exempt from certain limitations. We did not consider any mediating or moderating variable in this research, although prior studies have suggested that investigating them provides a deep insight into the study (Barua & Barua, 2021; Barua et al., 2020; Wang et al., 2023). Therefore, future research may include variables such as gender, age, and experience as such constructs. Another limitation is that the sample used in this research was collected only from Chittagong, a metropolitan city in Bangladesh, which restricts the generalization of our findings. Future research may conduct cross-culture studies for a better understanding of the matter. Collecting data at only one period would be another limitation of the study because human behavior may change from time to time. Therefore, conducting a longitudinal study, according to Suhartanto et al. (2019) and Sagib and Barua (2014), would overcome this study's limitations.

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## “APPENDIX”

*Table A1: Measurement Items*

Construct	Items	Measurement Indexes	Source (Adopted)
Performance Expectancy (PE)	PE 1	I find that food delivery apps are useful in my daily life.	(Venkatesh et al., 2012)
	PE 2	I believe that using food delivery apps increases my chances of achieving tasks that are important to me.	
	PE 3	I believe that food delivery apps help me accomplish tasks more quickly.	
	PE4	I believe that using an online food delivery service application increases my productivity.	
Effort Expectancy (EE)	EE1	Learning how to use food delivery apps is easy for me.	
	EE2	My interaction with food delivery apps is clear and understandable.	
	EE3	I find food delivery apps easy to use.	
	EE4	It is easy for me to become skillful at using food delivery apps.	
Social Influence (SI)	SI1	People who are important to me are thankful that I should use food delivery apps to order food.	
	SI2	People who influence my behavior thank that I should use food delivery apps for ordering food.	
	SI3	People whose opinions that I value prefer that I use food delivery apps.	
Facilitating Conditions (FC)	FC1	I have the resources necessary to use food delivery apps.	
	FC2	I have the knowledge necessary to use food delivery apps.	



	FC3	Food delivery apps are compatible with other technologies I use.	
	FC4	I can get help from others when I have difficulties using food delivery apps.	
Hedonic Motivation (HM)	HM1	Using food delivery apps is fun.	
	HM2	Using food delivery apps is enjoyable.	
	HM3	Using food delivery apps is entertaining.	
Price Value (PV)	PV1	Food delivery apps offer a reasonable price.	
	PV2	Using a food delivery app service is good value for money.	
	PV3	At current prices, food delivery apps provide good value.	
Habit (HB)	HB1	The use of food delivery apps has become a habit for me.	
	HB2	I am addicted to using food delivery apps.	
	HB3	I must use food delivery apps.	
	HB4	Using food delivery apps has become natural to me.	
Convenience (CO)	CO1	Using food delivery apps enables me to purchase food at any time I want.	(Chotigo & Kadono, 2021)
	CO2	Using food delivery apps enables me to purchase food wherever I am.	
	CO3	I find that food delivery apps are convenient for purchasing food.	
Time Saving (TS)	TS1	I believe that using FDA services are very useful in the online shopping process.	(Yeo et al., 2017)
	TS2	I believe that using FDA services helps me accomplish things more quickly in the online purchasing process.	
	TS3	I believe that I can save time by using FDA services in the purchasing process.	
	TS4	It is important for me that purchase of food is done as quickly as possible using FDA services.	
Information Quality (IQ)	IQ1	Using food delivery apps provides accurate information.	(Lee et al., 2019)
	IQ2	Using food delivery apps provides believable information.	
	IQ3	Using food delivery apps provides information at the right level of detail.	
	IQ4	Using food delivery apps presents the information in an appropriate format.	
Continuous Usage Intention (CUI)	CIU1	I intend to continue using food delivery apps in the future.	(Chotigo & Kadono, 2021)
	CIU2	I would recommend using a food delivery app for family, colleagues, and friends.	
	CIU3	I intend to increase my use of food delivery apps when the opportunity arises.	





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# Influence of Service Quality Dimensions in Commercial Banks of Bangladesh: Existing vs Expected

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**Abstract-** The economy of a country is largely dependent on banking sector. In this case, Bangladesh is not exceptional. Commercial banks of Bangladesh play a vital role in the economy, making up one of the biggest providers of services in the economy. In the current banking environment, service quality is one of the main weapons, which enables the banks to differentiate from each other. Hence, providing a better service quality is vital, as banks have to compete for customers. The primary focus of the study is to identify the gap between existing and expected service quality in terms of basic services, advanced services, cost and prestige, customer satisfaction and customer loyalty issues. Upon carrying out the study, a total of 120 (200 successful surveys) samples were surveyed in different commercial banks of Bangladesh. A questionnaire for such purpose was designed and different statistical methods were applied to analyse the collected data. From the study of descriptive statistics it is found that the overall service quality in commercial banks in Bangladesh is moderate. Whereas the sample t-statistics of the study shows that there is no significance difference between the existing and expected services of commercial banks of Bangladesh because the customer's demographic characteristics.

**Keywords:** bank, customer, existing and expected, loyalty, quality, satisfaction, service.

**GJMBR-E Classification:** LCC: HG1501-3550



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# Influence of Service Quality Dimensions in Commercial Banks of Bangladesh: Existing vs Expected

Md. Asfaqur Rahman <sup>α</sup> & Ela Saha <sup>σ</sup>

**Abstract-** The economy of a country is largely dependent on banking sector. In this case, Bangladesh is not exceptional. Commercial banks of Bangladesh play a vital role in the economy, making up one of the biggest providers of services in the economy. In the current banking environment, service quality is one of the main weapons, which enables the banks to differentiate from each other. Hence, providing a better service quality is vital, as banks have to compete for customers. The primary focus of the study is to identify the gap between existing and expected service quality in terms of basic services, advanced services, cost and prestige, customer satisfaction and customer loyalty issues. Upon carrying out the study, a total of 120 (200 successful surveys) samples were surveyed in different commercial banks of Bangladesh. A questionnaire for such purpose was designed and different statistical methods were applied to analyse the collected data. From the study of descriptive statistics it is found that the overall service quality in commercial banks in Bangladesh is moderate. Whereas the sample t-statistics of the study shows that there is no significance difference between the existing and expected services of commercial banks of Bangladesh because the customer's demographic characteristics. The research findings also suggest that there is a strong influence of service quality dimensions on customer satisfaction and customer loyalty. Hence, the recommendations would open up a new method of designing banking service in developing country like Bangladesh.

**Keywords:** bank, customer, existing and expected, loyalty, quality, satisfaction, service.

## I. INTRODUCTION

Banking is one of the most sensitive businesses all over the world. A bank is a financial intermediary that accepts deposits and channels those deposits into lending activities, either directly or through capital markets. According to Islam & Ahmed (2005) bank is a service selling institution, plays a significant role in a contemporary world of money and economy. It influences and facilitates many different but integrated economic activities such as resource mobilization, poverty elimination, production, and distribution of public finance (Chowdhury & Ahmed, 2009). Bangladesh has a well-developed banking system,

which consists of a wide variety of institutions ranging from a central bank to commercial banks and to specialized agencies to cater special requirements of specific sectors.

After deregulation and privatization policy was implemented by the government, private banks have got enormous benefits to set up facilities. As a result, numbers of private commercial and investment banks have been established. This results significant development of banking industry in Bangladesh during recent past years. The banking system of Bangladesh is dominated by the 4 Nationalized Commercial Banks in which 3 are totally controlled by government and 1 (Rupali Bank) bank is controlled by both government and private sector. Private banks are the highest growth sector due to the dismal performances of government banks. They tend to offer better service and products. Now 36 private commercial banks are operating in Bangladesh. There are also 10 specialized development banks and 10 Foreign commercial banks are operating in Bangladesh (Bangladesh Bank, 2017).

Banks nowadays have to be of world-class standard, committed to excellence in customer's satisfaction and to play a major role in the growing and diversifying financial sector. Banks have recognized the need to meet customer's aspirations. The customer is the focus and customer service is the differentiating factors (Ahmed & Khondoker, 2003). A bank can differentiate itself from competitors by providing high quality customer services. Organizations operating in service industries should consider service quality a key strategic issue for the business success. Service quality issue is equally important for commercial banks. The problem with service failure is that it may lead to a destroyed relationship between the customer and the organization. The importance of customer satisfaction in today's dynamic corporate environment is obvious as it greatly influences customer's repurchase intentions whereas dissatisfaction has been seen as a primary reason for customer's intentions to switch. Satisfied customers are most likely to share their experiences with other five or six people around them (Jahiruddin & Haque, 2009). Equally, dissatisfied customers are more likely to tell another ten people about their unfortunate experiences with a particular organization. In order to achieve customer satisfaction, organizations must be

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able to build and maintain long lasting relationships with customers through satisfying various customers needs and demands. Kumar et al (2009) stated that high quality of service will result in high customer satisfaction and increases customer loyalty. Ndubisi & Pfeifer (2005) pointed out that the cost of serving a loyal customer is five or six times less than a new customer. Loyal customers are more likely to give information to the service provider (because they trust the service provider and expect from the service provider to use the information with discretion and to their benefits).

#### a) *Objectives of the Study*

The objectives of the study are:

- To measure the influence of service quality dimensions in commercial banks of Bangladesh.
- To identify the interrelationships between existing and expected service quality of commercial banks in Bangladesh.
- To provide suitable policy recommendations to close the gaps between existing and expected service quality of commercial banks in Bangladesh.

## II. REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT

In Bangladesh, customers in the banking sector are in a strong bargaining position due to the significant growth of banks. Therefore, banks have to provide service carefully because of the availability of banks. Service quality has been a vital issue of discussion and research over the past three decades. Research on service quality has well established that the customer perception of the quality of a service depends on customer's pre-service expectations.

#### a) *Services of Commercial Banks-basic and Advanced*

The service sector is expanding at an increasing rate and is becoming intensely competitive. Service can be defined as any activity or benefit that one party offers to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product (Akhter, 2012). In the changing banking scenario of 21st century, banks had to have a vital identity to provide excellent services. Islam & Niaz (2014) opined that banks nowadays have to be of world-class standard, committed to excellence in customer's satisfaction and to play a major role in the growing and diversifying financial sector. There has been a remarkable change in the way of banking in the last few years. In Bangladesh, commercial banks also provide global quality services to their clients. According to Uddin & Akhter (2012) bank provide services into two categories as basic and advanced services. Basic services include opening bank account, safety and security of deposits, locker service and loans and advances. They also offer corporate banking, loan syndication, real-time online banking for corporate

clients as basic service for the commercial banks of Bangladesh. Whereas, the commercial banks of Bangladesh provide mobile banking, SME banking, internet banking, SMS banking, credit card, ATM services, foreign currency account, overtime banking facility, specialized help desk, customer complain box and professionalism falls under advanced services. In Bangladesh, customers in the banking sector are in a strong bargaining position due to the significant growth of banks. Therefore, banks have to design and provide service carefully because of the availability of banks. Zeithmal (2000) noted that the key strategy for the success and survival of any business institution is the deliverance of quality services to customers. Accordingly, Karim & Chowdhury (2014) deemed that excellent service quality is vital to business success and survival. Hence, delivering quality service to clients is a necessity for success and survival in today's competitive world (Kheng *et al.*, 2010).

#### b) *Service Quality*

Service quality has received a great deal of attention from both academicians and practitioners (Negi, 2009) and service marketing literature defined service quality as the overall assessment of a service by the customer (Eshghi *et al.*, 2007). Akroush (2008) pointed out that service quality is the result of the comparison made by customers about what they feel service firms should offer, and perceptions of the performance of firms providing the services. Service quality has a strong correlation with customer satisfaction, financial performance, manufacturing costs, customer retention, customer loyalty, and the success of marketing strategy (Wong *et al.*, 2008). Parasuraman *et al* (1985) undertook a qualitative research to investigate the concept of service quality. They arranged an in-depth interview with the executives and focus group interviews with customers to develop a model of service quality as SERVQUAL which can help the service and retailing organizations in assessing the expectations of customers and service quality perceptions. Parasuraman identified ten key determinants of service quality. They are: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding, tangibles. Though there was complaint through another analysts to help SERVQUAL model (Johnston, 1997), but SERVQUAL is the tool most used to its confirmatory issue examines in most cases. So, up to date, SERVQUAL model shown to be any parsimonious style which has been employed in numerous service organizations and also industries to help calculate service quality as well as banking institutions (Islam, 2015).

#### c) *Service Quality in Banking Sector*

Service quality is a focused evaluation that reflects the customer's perception of reliability, assurance, responsiveness, empathy and tangibility,

while satisfaction is more inclusive and it is influenced by perceptions of service quality, product price and quality as well as situational factors and personal factors (Wilson *et al.*, 2012). In the banking sector, service quality has become more and more significant aspect for achievement and endurance. The stipulation of high quality service helps in achieving numerous requirements like customer satisfaction and its outcome loyalty, profitability, market share and financial performance (Vera & Trujillo, 2013). Leisen (2009) opined that once the customer has chosen a commercial bank, they have developed expectations of what constitutes service as ideal service level. Further, researchers identified various service quality dimensions and these are used as independent variables in several service quality studies. Flavian *et al.* (2004) identified factors like access to service, service offered, security, and reputation for measuring service quality. Islam & Ali (2011) have followed Parasuraman *et al.* (1985) and compared service quality of public and private banks in a conceptual study. They found private bank providing better service than public banks. However, no model was proposed and client's satisfaction and loyalty were not measured in their study. Joseph *et al.* (1999) used service quality indicators in banking sector. They measured the impact of technology on service delivery. However, the study overlooked quality dimensions for measuring the role of technology. Islam & Ahmed (2005) believe that the good behavior of the employees of the bank is the key aspect of customer service but surprisingly, most of the literature ignores customer satisfaction and loyalty as vital to success in banking services. The relationship between service quality and customer satisfaction and customer loyalty are becoming crucial with the increased level of awareness among bank customer's demographic characteristics should be considered by the bank managers to understand their customers.

d) *Relationship between Service Quality and Customer Satisfaction*

According to Hutchinson *et al.* (2009) customer satisfaction is influenced by service quality. When customers get expected service quality, it leads to higher satisfaction. Service quality is the determinant of customer satisfaction and by ensuring good service quality; service providers can enrich customer satisfaction (Uddin & Akhter, 2012). According to Zielke (2008) customer satisfaction is affected by the price/service charge awareness. Price level, value for money and special offers may result in both satisfaction and dissatisfaction and price fairness, price perceptibility and price processibility may result in dissatisfaction for customers. The search done by Zeilke (2008) found that "cleanliness, security, value for money and courtesy of staff determine customer satisfaction". Knutson (1988) revealed that cleanliness and comfort,

convenience of location, prompt service, safety and security, and friendliness of employees are key determinants of customer satisfaction. A study conducted by Akan (1995) claimed that the vital factors are the behaviour of employees, cleanliness and timeliness. On the other hand the study by Choi & Chu (2001) concluded that staff quality, property qualities, and value are the top three factors that determine customers' satisfaction but it is duty of the managers to focus on the core areas and need to take attention and action where to improve service quality.

e) *Relationship between Service Quality and Customer Loyalty*

Singh & Sirdeshmukh (2000) suggested the customer loyalty as "the market place currency of the twenty-first century". Most customer loyalty experts would agree that loyalty is best defined as a state of mind, a set of attitudes, beliefs, desires etc. Loyalty is developed by approaches which reinforce and develop a positive state of mind and the associated behaviours. The exchange of information is one of the keys of loyalty, and provides a critical bridge between state of mind and behavior (Siddiqi, 2011). Palmer *et al.* (2007) suggested that the willingness to recommend an organization's product or service to another customer can be seen as a measure of the level of attitudinal customer loyalty. Loyal customers are more likely to give information to the service provider (because they trust the service provider and expect from the service provider to use the information with discretion and to their benefits). Managing loyalty is important because it means not only managing behavior but also managing a state of mind. Several researchers attempt to find the interrelationships between service quality, customer satisfaction and customer loyalty in the retail banking sector. Researchers argue that service quality and customer satisfaction are the predictors of customer loyalty (Tariq and Moussaoui, 2009). Garland & Gendall (2004) mentioned that a loyal customer uses few banks, the highest likelihood of increasing business with the main bank, and the lowest probability of defection from that bank. The findings from the regression analysis disclosed that attitude and behaviour were the most important determinants of the number of banks used.

f) *Conceptualization of Hypotheses*

On the basis of these extensive review of literature following hypotheses have been developed to test the empirical investigation for the purpose of assessing existing and expected perceived service quality gap of commercial banks in Bangladesh.

$H_1$ : There is a significant difference between the Existing & Expected basic services of commercial banks perceived by the customers.



$H_2$ : There is a significant difference between the Existing & Expected advanced services of commercial banks perceived by the customers.

$H_3$ : There is a significant difference between the Existing & Expected costs and prestiges of commercial banks perceived by the customers.

$H_4$ : There is a significant difference between the Existing & Expected customer satisfaction of commercial banks perceived by the customers.

$H_5$ : There is a significant difference between the Existing & Expected customer loyalty of commercial banks perceived by the customers.

### III. MATERIALS AND METHODS

This study is descriptive and designed to test hypotheses. Therefore, this study is aimed to examine the existing and expected service gap between quality factors leading to the customer satisfaction and loyalty to the commercial banks in Bangladesh. The hypotheses have been drawn based on the literature review and the empirical tests have been deployed for explaining the relationship among variables. The structured questionnaire sampling procedure has been applied to collect data. The survey is conducted during March 2023 to May 2023 and total 120 number of bank customers from different areas of Bangladesh have been taken for this study.

This study is based on primary data originating from a survey. For this purpose a constructed questionnaire has been developed. Excepting the questions regarding demographic characteristics and user's value added service interface of the respondents and the issues relating to basic services, advanced services, costs and prestiges, customer satisfaction and customer loyalty of commercial banks of Bangladesh measured and investigated through 5 point scale

(Brayfield & Rothe, 1951). The scale consists of 50 statements, for each statement has five options/ points such as strongly disagree (1), disagree (2), undecided (3), agree (4), and strongly agree (5). SPSS Statistics software package version 22 is used for statistical analysis.

Table 1: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	No. of Items
.913	50

Reliability of data has been measured by using the Cronbach Alpha (Cronbach, 1951). Cronbach Alpha was 0.913. Alpha is higher than that is suggested by Nunnally (1978) and therefore data collected can be considered reliable. Descriptive statistical techniques such as mean and standard deviation were used to measure the mean scores and their variability. Pair sample mean difference tests has been deployed to find out the mean differences of paired variables and used to test the hypotheses. Paired sample Pearson Correlation is used to indicate correlations among the variables.

### IV. RESULTS

#### a) Paired Samples Statistics

Descriptive statistics such as mean is used to measure the average value of the variables and standard deviation is used to test the variability of the mean value. Five point scales is used to collect perception regarding the variables. Therefore, mean value of variables ranges 1 to 5. A mean value below 2.5 is below average, mean value 2.5 to 2.9 is above average, mean value 3 to 3.9 is moderate and mean value 4 to 5 is high.

Table 2: Paired Samples Statistics

Paired Samples Statistics				
Pair	Factors	Mean	N	Std. Deviation
Pair 1	Existing Basic Service	3.59	120	.561
	Expected Basic Service	3.70	120	.822
Pair 2	Existing Advanced Service	3.26	120	.614
	Expected Advanced Service	3.47	120	1.040
Pair 3	Existing Cost and Prestige	3.41	120	.594
	Expected Cost and Prestige	3.51	120	1.034
Pair 4	Existing Customer Satisfaction	3.49	120	.636
	Expected Customer Satisfaction	3.53	120	1.045
Pair 5	Existing Customer Loyalty	3.60	120	.591
	Expected Customer Loyalty	3.50	120	1.005

The mean value of the variables of the study ranges 3.70 to 3.26. Mean value of Existing Basic Service is 3.59 (moderate) & Expected Basic Service is 3.70 (moderate). The mean value of Existing Advanced

Service is 3.26 (moderate) & Expected Advanced Service is 3.47 (moderate). The mean value of Existing Cost and Prestige is 3.41 (moderate) & Expected Cost and Prestige is 3.51 (moderate). The mean value of



Existing Customer Satisfaction is 3.49 (moderate) & Expected Customer Satisfaction is 3.53 (moderate). The mean value of Existing Customer Loyalty is 3.60 (moderate) & Expected Customer Loyalty is 3.50 (moderate). The Standard Deviation ranges 0.561 to 1.045. Therefore, moderate variability in perception regarding variables has been observed.

#### b) Paired Sample Correlations

A correlation is a single number that describes the strength of the linear relationship between two or more interrelated quantitative variables. A mathematical measure between two set of variables is called the Correlation Coefficient. It is most commonly symbolized by the letter  $r$ . The value of correlation coefficient ( $r$ ) lies between -1 to +1. In universal,  $r > 0$  indicates positive

relationship,  $r < 0$  indicates negative relationship while  $r = 0$  indicates no relationship. Here  $r = +1.0$  describes a perfect positive linear relationship and  $r = -1.0$  describes a perfect negative linear relationship. Closer the coefficients of +1.0 and -1.0, greater the strength of positive/negative the relationship between the variables. The following general guidelines indicate a quick way of interpreting the value of correlation coefficient: -.9 to -1.0 or +1.0 to +0.9 very strong; -.9 to -.7 or +0.7 to +0.9 strong high; -.7 to -.4 or +0.4 to +0.7 moderate; -.4 to -.2 or +0.2 to +0.4 weak/low correlation and -.2 to 0.0 or 0.0 to +0.2 very weak to negligible negative/positive correlation (Ullah & Rahman, 2015).

Table 3: Paired Sample Correlations

Paired Samples Correlations				
Pair	Factors	N	R	Sig.
Pair 1	Existing Basic Service & Expected Basic Service	120	.003	.971
Pair 2	Existing Advanced Service & Expected Advanced Service	120	-.126	.169
Pair 3	Existing Cost and Prestige & Expected Cost and Prestige	120	.024	.796
Pair 4	Existing Customer Satisfaction & Expected Customer Satisfaction	120	-.199	.029
Pair 5	Existing Customer Loyalty & Expected Customer Loyalty	120	-.174	.057

Table 3 shows the Pearson's correlation coefficient of the variables of the study. The results show that there is a very weak, significant positive correlation between the Existing Basic Service & Expected Basic Service with coefficient correlation  $r = .003$  at  $p < 0.971$  level. There is a very weak, low significant negative correlation between the Existing Advanced Service & Expected Advanced Service with coefficient correlation  $r = -.126$  at  $p < 0.169$  level. There is a very weak, significant positive correlation between the Existing Cost and Prestige & Expected Cost and Prestige with coefficient correlation  $r = .024$  at  $p < 0.796$  level. There is a very weak, significant negative correlation between the Existing Customer Satisfaction & Expected Customer Satisfaction with coefficient correlation  $r = -.199$  at  $p < 0.029$  level. There is a very weak, significant negative correlation between the Existing Customer Loyalty & Expected Customer Loyalty with coefficient correlation  $r = -.174$  at  $p < 0.057$  level.

#### c) Paired Difference $t$ -test

A paired  $t$ -test has been used to test a mean difference between paired samples (Existing & Expected). In table 4, paired sample 1, Existing & Expected Basic Services of commercial banks, the  $t$ -statistic is -1.23 with 119 degrees of freedom. The corresponding two tailed  $p$ -value is 0.221, which is greater than 0.05. Therefore, we conclude that the mean difference of Existing & Expected Basic Services of commercial banks is not different from 0.

In paired sample 2, Existing & Expected Advanced Services of commercial banks, the  $t$ -statistic

is -1.86 with 119 degrees of freedom. The corresponding two tailed  $p$ -value is 0.065, which is greater than 0.05. Therefore, we conclude that the mean difference of Existing & Expected Advanced Services of commercial banks is not different from 0.

In paired sample 3, Existing & Expected Cost and Prestige of commercial banks, the  $t$ -statistic is -.87 with 119 degrees of freedom. The corresponding two tailed  $p$ -value is 0.384, which is greater than 0.05. Therefore, we conclude that the mean difference of Existing & Expected Cost and Prestige of commercial banks is not different from 0.

In paired sample 4, Existing & Expected Customer Satisfaction of commercial banks, the  $t$ -statistic is -.31 with 119 degrees of freedom. The corresponding two tailed  $p$ -value is 0.752, which is greater than 0.05. Therefore, we conclude that the mean difference of Existing & Expected Customer Satisfaction of commercial banks is not different from 0.

In paired sample 5, Existing & Expected Customer Loyalty of commercial banks, the  $t$ -statistic is .88 with 119 degrees of freedom. The corresponding two tailed  $p$ -value is 0.376, which is greater than 0.05. Therefore, we conclude that the mean difference of Existing & Expected Customer Loyalty of commercial banks is not different from 0.

Table 4: Paired Difference t-test

		Paired Samples Test							
		Paired Differences					T	Df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
Pair	Factors	Mean	SD	Std. Error Mean	Lower	Upper			
Pair 1	Existing Basic Service- Expected Basic Service	-.11	.99	.09	-.29	.06	-1.23	119	.221
Pair 2	Existing Advanced Service – Expected Advanced Service	-.21	1.27	.11	-.44	.01	-1.86	119	.065
Pair 3	Existing Cost and Prestige – Expected Cost and Prestige	-.09	1.18	.10	-.30	.11	-.87	119	.384
Pair 4	Existing Customer Satisfaction – Expected Customer Satisfaction	-.03	1.32	.12	-.27	.20	-.31	119	.752
Pair 5	Existing Customer Loyalty – Expected Customer Loyalty	.10	1.25	.11	-.12	.32	.88	119	.376

## V. DISCUSSION ON RESULTS

Paired sample *t*-statistics of the study shows that there is no significance difference between the existing and expected services of commercial banks of Bangladesh in terms of basic service, advanced service, cost and prestige, customer satisfaction and customer loyalty. The results of the paired difference *t*-test showed that the quality of services offered to the customers of commercial banks do not vary between existing and expected services i.e. the hypotheses designed to find out significant differences between the existing and expected service factors in terms of basic service, advanced service, cost and prestige, customer satisfaction and customer loyalty have been rejected. Although the banking sector needs has become more diverse and exotic than ever before, the choice between existing and expected service quality does not vary and has positive effect on customer satisfaction and customer loyalty.

## VI. CONCLUSIONS AND RECOMMENDATIONS

For retaining existing customers and to convert them as loyal customers, the banking industry offers the most attractive and unique service features which are better than competitors do for maximizing the perceived customer satisfaction in a highly competitive marketplace. From the customers' perspective, service quality significantly influences customer satisfaction and customer satisfaction has direct influences on loyalty. Research findings indicate that service quality influences existing services than focusing on expected services as change is dynamic and need not to focus on closing the gap because service nature is frequently changing. It is therefore imperative on the part of bankers to stress

upon both service quality and customer satisfaction, in order to raise the retention intentions of customers.

Organization's success is associated with concentration to customer and provide better service to the customers that leads to higher customer satisfaction and ultimately to gain the corporate objective. While, quality service is essential in today's competitive market. The objective of this study was to identify the gap between existing and expected service quality of commercial banks in Bangladesh. Although there is no significant differences in existing and expected services, the researcher also tried to recommend some issues for improving service quality of the commercial banks of Bangladesh.

- The commercial banks of Bangladesh needs to pay much attention on the customer complaints in order satisfy the customer's expectation.
- In order to retain the existing customers and to improve service quality, bank should continuously maintain error-free transactions, since bank accounts and figures are very sensitive for each and every customer.
- The management of the bank should regularly run research activities in order to keep a regular track of customer satisfaction level. As customer expectations and satisfaction are not static figures, regular research at sufficient intervals should be conducted.
- Since bank is a service oriented organization, hence providing continuous training to the employees on issues like courtesy, etiquette and communication skills while dealing with customers is of immense importance.
- Bank authority should develop a systematic assessment program to monitor service quality, perceived value and satisfaction of customer.

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1. Substantial contributions to the conception and acquisition of data, analysis, and interpretation of findings.
2. Drafting the paper and revising it critically regarding important academic content.
3. Final approval of the version of the paper to be published.

### Changes in Authorship

The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

### Copyright

During submission of the manuscript, the author is confirming an exclusive license agreement with Global Journals which gives Global Journals the authority to reproduce, reuse, and republish authors' research. We also believe in flexible copyright terms where copyright may remain with authors/employers/institutions as well. Contact your editor after acceptance to choose your copyright policy. You may follow this form for copyright transfers.

### Appealing Decisions

Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

### Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

### Declaration of funding sources

Global Journals is in partnership with various universities, laboratories, and other institutions worldwide in the research domain. Authors are requested to disclose their source of funding during every stage of their research, such as making analysis, performing laboratory operations, computing data, and using institutional resources, from writing an article to its submission. This will also help authors to get reimbursements by requesting an open access publication letter from Global Journals and submitting to the respective funding source.

## PREPARING YOUR MANUSCRIPT

Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.



### ***Manuscript Style Instruction (Optional)***

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

### ***Structure and Format of Manuscript***

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

- a) A title which should be relevant to the theme of the paper.
- b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
- c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
- d) An introduction, giving fundamental background objectives.
- e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
- f) Results which should be presented concisely by well-designed tables and figures.
- g) Suitable statistical data should also be given.
- h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

- i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
- j) There should be brief acknowledgments.
- k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.



## FORMAT STRUCTURE

***It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.***

All manuscripts submitted to Global Journals should include:

### **Title**

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

### **Author details**

The full postal address of any related author(s) must be specified.

### **Abstract**

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

### **Keywords**

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in a research paper?" Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

### **Numerical Methods**

Numerical methods used should be transparent and, where appropriate, supported by references.

### **Abbreviations**

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

### **Formulas and equations**

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

### **Tables, Figures, and Figure Legends**

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

## PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

## TIPS FOR WRITING A GOOD QUALITY MANAGEMENT RESEARCH PAPER

Techniques for writing a good quality management and business research paper:

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

**5. Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

**10. Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.





**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.

### Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.



- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

#### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

*Reason for writing the article—theory, overall issue, purpose.*

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

#### **Approach:**

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

#### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.



**Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

**Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

**Materials:**

*Materials may be reported in part of a section or else they may be recognized along with your measures.*

**Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

**Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

**What to keep away from:**

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



**Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

**What to stay away from:**

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

**Approach:**

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

**Figures and tables:**

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

**Discussion:**

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.



**Approach:**

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

## THE ADMINISTRATION RULES

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

*Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.*

*Segment draft and final research paper:* You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

*Written material:* You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.



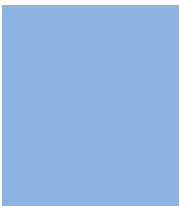


CRITERION FOR GRADING A RESEARCH PAPER (COMPILATION)  
BY GLOBAL JOURNALS

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

Topics	Grades		
	A-B	C-D	E-F
<i>Abstract</i>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
<i>Introduction</i>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring





# INDEX

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<b>A</b>	
Acquisition · 22, 23, 24, Analogous · 13, 24	
<b>C</b>	
Cognitive · 6, 14 Conciliation · 30	
<b>D</b>	
Demographic · 2, 7, 8, 9, 26 Demonstrated · 4, 5, 10 Deregulation · 34 Diagonal · 10	
<b>E</b>	
Endorsement · 13 Enormous · 34	
<b>H</b>	
Hedonic · 4, 5, 6, 10, 11, 12, 17, 20	
<b>I</b>	
Inconsequential · 13 Intangible · 35	
<b>M</b>	
Meteoric · 1, 15 Mitigate · 9	
<b>N</b>	
Notoriously · 13	
<b>O</b>	
Orientation · 13	
<b>P</b>	
Phenomenon · 4 Prominent · 9	
<b>R</b>	
Regions · 26	
<b>S</b>	
Stipulation · 36 Subsequent · 2	
<b>U</b>	
Utilitarian · 3, 15, 18	
<b>W</b>	
Willingness · 5, 36	



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