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## EXPLORING THE FACTORS INFLUENCING ADOPTION OF M-COMMERCE FOR FASHION PRODUCTS IN BANGLADESH

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### ABSTRACT

The aim of this study is to gather in-depth knowledge regarding the current state of mobile commerce in fashion in Bangladesh and identify the factors that might influence their intention towards adopting it.

Numerous academic research have focused on the adoption of mobile commerce for fashion products in developed countries, however, research on mobile commerce in fashion from the perspective of emerging countries like Bangladesh is lacking. This gap in knowledge combined with the recent upsurge in adoption of smartphones and rapid expansion of the domestic fashion market makes this research worthy of studying.

This research initially identified possible factors from the existing literatures that might assist in predicting which factors might influence Bangladeshi consumer's intention to adopt mobile technology, and related hypotheses were formed based on UTAUT 2 model structure. Questionnaire survey was conducted to collect data from different user group and to check the hypotheses, using Structural Equation model. The analysis found four possible factors that might influence consumer's intention to adopt mobile commerce for fashion products in Bangladesh namely performance expectancy, habit, price value and real-time search and evaluation. This research has significant implications in both academic and managerial context. From an academic viewpoint it will provide the future researchers with a base to build on as research concerning mobile commerce is limited in Bangladesh. Furthermore, it adds to current knowledge by utilizing new data analysis techniques. The fashion retailers can use the findings of this research to develop mobile services for the consumers and tailor their marketing campaigns to provide a better experience.

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**Keywords:** Mobile technology, Fashion, Retail, Bangladesh

### INTRODUCTION

Smartphone is one of the most iconic symbols of modern times. These types of mobile devices have transformed the way people communicate. They are basically a handheld computer which allows the capability to communicate, use internet and related services, alongside image and video capture (Casey and Turnbull, 2011). Apart from their regular activities, mobile devices have become the key driving factor behind the rapid uptake of e-commerce recent years (Agrebi and Jallais, 2015). In today's digital environment an increasing number of people are spending a significant amount of time on mobile devices which allows them to browse, share and buy products (Deloitte, 2016) and in-between glancing at social media and completing other tasks modern time-crunched consumers demand the entire world to be at their fingertips. This level of involvement with the smart mobile devices has presented the retailers with an opportunity to connect with their customers irrespective of time and place. Realising this fashion industry has been at the forefront of

utilizing these mobile commerce technologies in both consumer and organizational context (e.g. ASOS, Zara).

In developed countries almost all the fashion brands have a strong presence in terms of mobile commerce. As the popularity of smartphones and other portable smart devices rises for accessing internet, they have become an important channel for retailers (Agrebi and Jallais, 2015). Apart from just accessing the internet, consumers are using mobile technologies for a range of activities now such as payment, purchase, in-store activities (Mintel, 2017). Moreover, mobile technologies such as mobile apps are making a massive impact on shopping particularly in fashion shopping as they emphasize a transformation in the process of delivering interactive services and content through mobile devices (Chaffey and Ellis-Chadwick, 2012). This change in the fashion retail environment is sweeping across the globe impacting the developed and emerging economies alike. Use of such technologies in emerging economies is increasingly becoming evident with mobile commerce becoming mainstream in countries like China (Hoang, 2016). Bangladesh can be another example. It is an emerging nation in the south of Asia where the economy has been growing steadily in the past decade with an annual growth rate of 7.1% and per capita income of around USD 1500; the median age Bangladesh is 24 and the middle class population is expanding Bangladesh (Boston Consulting Group, 2015). Household consumption is projected to rise significantly in upcoming years and expanding young middle class has the potential to intensely support the consumptions in upcoming years making it a potentially lucrative market (Boston Consulting Group, 2015). Apart from just consumption, this young middle class population is revolutionising the use of smart device in Bangladesh. Furthermore, consumers have adopted mobile devices and high speed mobile internet service fairly quickly subsequent to the introduction of 3G technology in Bangladesh in the late 2012, (Fox Business, 2012). A significant portion of the consumers belonging to the middle class in Bangladesh now owns a Smartphone (Boston Consulting Group, 2015). Currently Bangladesh has roughly 86 million smartphone users; the whole country is under 3G internet coverage; a staggering 94% of the total internet connections, which currently totals at more than 70 million, are used through mobile devices (Islam, 2017). Relatively low price of smartphones and internet services are fuelling this growth of smart devices in Bangladesh (GSMA, 2017). Mobile penetration levels are relatively high, around 53%, even in rural areas which are rarely seen in emerging markets (GSMA, 2017). Due to this association with mobile technology, mobile commerce can have a significant influence on the Bangladeshi consumers as the majority of the consumers' access internet through mobile devices (Islam, 2017). As Bangladesh is rising as a potential market, the use of mobile commerce can be beneficial to them.

One particularly appealing aspect in Bangladesh is the massive use of social media through mobile devices. Social platforms such as Facebook are having a profound impact on the Bangladeshi consumers. According to Bangladesh Telecommunication Regulatory Commission (BTRC), 80 per cent of total internet users are present in social networking sites like Facebook (Daily Star, 2015). A recent report found that Dhaka, the capital city of Bangladesh is positioned second in terms of having the most number of active Facebook users (Daily Star, 2017). Most of the retail brands are now present on the social platforms such as Facebook, Instagram and Twitter with a significant number of followers.

However, as the use of mobile technology is still in its initial stages, only a few have thus far studied mobile shopping adoption with regard to a particular productcategory, such as fashion products. This study characterizes mobile shopping as the undertakings of consumers who utilizes wireless internet service for shopping and purchasing through a mobile device.

Such situation exhibits an enormous potential for mobile commerce in fashion retail sector of Bangladesh. However, despite all the encouraging facts, Bangladesh is still in the early stages of using mobile technology for shopping particularly for fashion. There is still a long a way

to go before the full potential of mobile technology for fashion shopping is realised. Therefore, in order to realise the full potential it is necessary to identify factors that might influence Bangladeshi consumers to adopt mobile technology for fashion products. Therefore, the purpose of this research is to find out factors that might influence consumers in the context of adoption of mobile fashion shopping. In focusing on the Bangladeshi market, the study's objectives are to identify critical factors of m-commerce characteristics relevant to adoption of mobile technology for fashion shopping. It is hoped that such a focus will provide insight for fashion marketers and researchers seeking to assess the value-added business model in the context of m-commerce. Due to the potential for strong growth in m-commerce in the Bangladeshi market, the study also could help managers identify the potential early success applications for fashion marketing in the wireless marketplace.

### **CONCEPTUAL BACKGROUND**

Mobile commerce can be defined generally as the conduction of communications and electronic transactions through mobile devices, for instance smartphones and tablets which usually utilises wireless connection (Chaffey, 2015). However, mobile commerce is not only limited to communications and transactions as later definitions have endeavoured to broaden its scope. (Goworek and McGoldrick, 2015) defined m-commerce as business activities undertaken by using smartphones and wireless connections that provides convenient browsing and payment facilities and allows the retailers to connect to consumers using tailored offers and information through the use of diverse technologies such as “geo-positioning” and mobile applications. Additionally, several researchers have posited mobile technology as an extension of e-commerce and deliberated it to be a harmonizing instrument to online channels instead of a direct substitute due to usability concerns and limitations of mobile devices (Turban *et al.*, 2009; Ozok and Wei, 2010; Chong, Chan and Ooi, 2012).

Mobile commerce offers a diverse range of services in present day in a wide range of context such as consumer, organization and government. In consumer context m-commerce provide services such as mobile shopping applications (apps), mobile payment systems like apple pay and android pay, in-app payment systems, in-store mobile technologies like bar code scanning, information browsing sharing in real time (Agrebi and Jallais, 2015). In an organizational context mobile technology also enables organizations with facilities to formulate better marketing campaigns, manage customer relationships and present appropriate offers that reflect location information (e.g., time of day, weather, location), using location-based applications (e.g. Google maps) (Grewal *et al.*, 2016).

More than half of brands like ASOS's revenue come from mobile channels (ASOS, 2016). 48% of millennials have bought fashion using their smartphones (Intel, 2017a). In the United States, 34% of total ecommerce sales are through mobile devices (Statista, 2017). 39% of the shoppers in the United Kingdom used smartphones in-stores while searching for fashion products (Intel, 2017). Especially the millennials, every two in five (44%) persons aged 17 to 36 commonly use their smartphone while browsing for fashion products in-store (Intel, 2016).

Mobile applications or apps have become an important part of fashion retail. The mobile app also known as the 'native app' provides an easy and user friendly approach for browsing and purchasing products from brands (Grotnes, 2009). It can be accessed through mobile devices such as smartphones and tablets. Mobile apps offers the consumer one click navigation and a personalised shopping experience compared to the text based entry involving internet browsers (Lu and Yu-Jen Su, 2009).

As Bangladesh is gradually starting to use mobile commerce in the domestic fashion industry it is of great importance to find out the factors that are likely to influence their intention towards using it. It is in line with the aim of the research. In order to find out which factors might influence the intention of the consumers in Bangladesh to adopt mobile commerce for fashion products, existing theories might be utilised. Various theories have made an effort to explain behavioural intention among individuals; among them the technology acceptance models which explored behavioural intention to adopt different technologies might be particularly useful for this study as mobile commerce is itself a technology and fundamentally rooted in it.

Researchers have also tried to find out which factors influence consumer's intention to adopt mobile commerce for fashion retail. For example Kim, Jin Ma and Park, (2009) have explored the adoption of mobile technology for fashion products in the USA using the TRA along with the TAM; (Ko, Kim and Lee, 2009) have explored the adoption of mobile technology in shopping for fashion products in South Korea using TAM. However, another prominent technology acceptance model the extended Unified Theory of Acceptance and Use of Technology (UTAUT) can be better suited for this study as it more recent and validated from previous models.

The Extended Unified Theory of Acceptance and use of technology (UTAUT 2)

After assessing and trying out the preceding technology acceptance models, Venkateshet *al.*, (2003) proposed a unified model comprising of the decisive factors of acceptance throughout a number of technology acceptance models called the Unified theory of acceptance and use of technology (UTAUT). The UTAUT model has been validated in various situations as possessing superior descriptive abilities than the previous models (Williams, Rana and Dwivedi, 2015). The UTAUT suggests that, four major factors: Performance expectancy, effort expectancy, facilitating conditions and social influence determines an individual's intention to use information technology (IT) (Venkatesh *et al.*, 2003). Furthermore, UTAUT integrates demographic factors which can influence the behavioural intention such as age, gender and education. While variables such as Performance Expectancy (PE), Effort Expectancy (EE) and Social Influence (SE) are assumed to be a direct influencer of behavioural intention, Facilitating Conditions (FC) are perceived to be direct influencer of usage behaviour. However, the role of the factors varies depending on whether the use is mandatory or voluntary (Venkatesh *et al.*, 2003). However, the original UTAUT model was developed with the intention of explaining the acceptance of technology amongst the employees within an organizational environment and not particularly for the consumer context which is the area of research for this study (Venkatesh *et al.*, 2003). Yet, to explore adoption of mobile technology in shopping it requires consumer involvement rather than employees in a workplace. Therefore, it needed refinement despite a great number of studies being conducted based on this model. Consequently, an extended version or the UTAUT 2 of this model was proposed by Venkateshet *al.* in 2012 which investigates technology adoption from a consumer context.

The extended UTAUT or the UTAUT 2 integrates three new constructs into the UTAUT model along with the previous ones namely hedonic motivation, price value and habit (Venkatesh, 2012). Furthermore, UTAUT 2 also asserts the role of facilitating conditions as a direct determinant of behavioural intention as it tends to act like perceived behavioural control in the theory of planned behaviour in a consumer context (Ajzen, 1991; Venkatesh, 2012). Figure 3.4 illustrates the UTAUT 2 model. The UTAUT 2 model integrates three moderators- age, gender and experience in the model to moderate the relationship within the model. It proposes that variables of the model such as performance expectancy, effort expectancy and social influence is moderated by gender; age will have a moderating effect on

all of the four variables in the model whereas experience is expected to moderate effort expectancy, social influence and facilitating conditions;

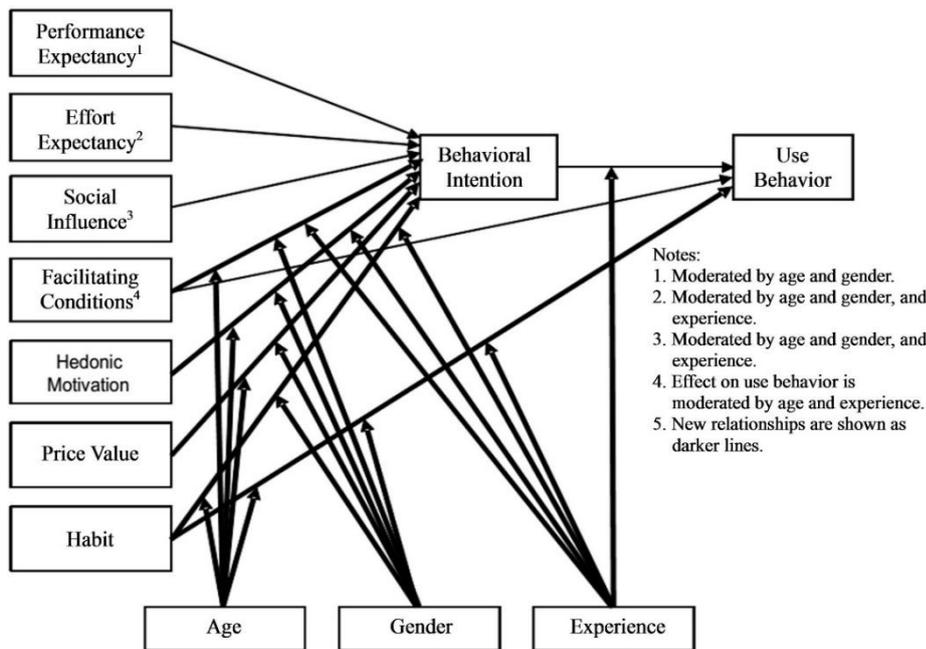


Figure.1 The extended Unified Theory of Acceptance and Use of Technology (UTAUT 2) (Venkatesh et al., 2012)

Williams, Rana and Dwivedi, (2015) argued that, it is possible to evaluate individual's intention to use a particular system by examining the manifestation of each of these constructs in an actual situation which consequentially will result in the recognition of the significant influencing factors regarding the acceptance of technology in any given environment. Figure 3.3 illustrates the UTAUT 2 model.

### Performance Expectancy (PE)

Davis, Bagozzi and Warshaw, (1992) described Performance expectancy as the extent to which individuals think that the use of any particular system or technology will assist them to make advances in a job. Performance expectancy is influenced by three factors, perceived usefulness, external motivation and job fit (Williams, Rana and Dwivedi, 2015). For instance, an individual may find that the use of mobile technology in fashion shopping can have significantly positive influence on his productivity. In this circumstance he/she is more likely to accept the use of mobile technology. These expectations may be influenced by external factors such as peer motivations. Performance expectancy has been found as the strongest predictor of intention to acceptance and use of any particular technology (Venkatesh *et al.*, 2003).

*Performance expectancy* is the prime predictor of intention to adopt and use for any technology (Venkatesh *et al.*, 2003). Quite a few studies regarding the intention to adopt mobile technology for shopping have found performance expectancy to be a strong positive influencer of behavioural intention e.g. (Park, 2007; Kim, Jin Ma and Park, 2009; Ko, Kim and Lee, 2009; Tsu Wei *et al.*, 2009). Although consumer's usage experience of mobile technology required for fashion shopping in Bangladesh is still at relatively early stages, the rapid adoption of mobile devices and technology in daily life and in areas such as education and government services highlights its functional purpose. This research suggests that because of the previous functional experience regarding the use of mobile technology of the

consumers in Bangladesh, performance expectancy will have a significant positive influence on their behavioural intention to use the technology. Therefore, this research proposes the following hypothesis:

**H1:** Performance expectancy will significantly influence behavioural intention towards using mobile technology for fashion shopping in Bangladesh.

### **Effort Expectancy (EE)**

*Effort expectancy* can be referred to as the extent to which individuals perceive the technology to be easy to use (Venkatesh *et al.*, 2003).. *Effort expectancy* is found to be significant in both voluntary and obligatory situations (Venkatesh *et al.*, 2003) Preceding research on the adoption of mobile technology for fashion products such as Ko, Kim and Lee (2009) and Kim, Jin Ma and Park (2009) found effort expectancy to be a significant factor. This construct is assumed to be more significant in the early stages of adoption and becomes insignificant with continued usage over time (Davis, Bagozzi and Warshaw, 1989; Agarwal and Prasad, 1997). As Bangladesh is in the early stages of adoption and consequently has limited experience regarding the use of mobile devices and related technology. Therefore *effort expectancy* might be a significant influencing factor for adopting mobile technology for fashion shopping. Thus the following hypothesis is proposed.

**H2:** Effort expectancy will significantly influence behavioural intention toward using mobile technology for fashion shopping in Bangladesh.

### **Social Influence (SE)**

Social influence can be defined as the extent to which an individual thinks that persons important to them believes the use of any particular system or technology is important (Diaz and Loraas, 2010). As described by Venkateshet *al.*, (2003), perceived usefulness can be considerably influenced by subjective norm through internalization and identification, predominantly in the primary stages of experience (Keong *et al.*, 2012).

In a voluntary situation social influence functions by persuading views about technology through internalization and identification (Venkatesh *et al.*, 2003). Although, social influence is a direct significant determinant of behavioural intention in a mandatory context, it was not found to be significant determinant factor in a voluntary context (Venkatesh *et al.*, 2003). Although, it has been found to be insignificant in voluntary situations, it can prove to be significant due to the social nature of fashion business. Furthermore, social media is rapidly becoming an important platform for fashion businesses and in such platforms consumers might be influenced by their peers through internalization process (Think with google, 2016). Previous research regarding the adoption of mobile technology for fashion has found social influence to be a significant factor ( e.g. Kim, Jin Ma and Park, 2009; Ko, Kim and Lee, 2009; Tsu Wei *et al.*, 2009) Furthermore the cultural setting in Bangladeshi society and Bangladeshi individual's immense presence in social media platforms can be a crucial factor which might prove social influence to be an important factor for behavioural intention to adopt mobile technology for shopping in Bangladesh. Therefore, this research proposes the following hypothesis:

**H3:** Social influence will significantly influence behavioural intention toward using mobile technology for fashion shopping in Bangladesh.

### **Facilitating Conditions**

Facilitating conditions can be defined as the extent to which individuals think that adequate infrastructure is present to support their use of technology (Venkatesh *et al.*, 2003). This can

be assumed as a significant construct for explaining the intention to adopt mobile technologies for fashion shopping in Bangladesh. In the original UTAUT, Venkatesh et al. (2003) argued that in presence of the construct effort expectancy, facilitating conditions will not be a significant influencing factor as effort expectancy captures the core concept of facilitating condition. However, in the extended UTAUT or UTAUT2 which explains the model from a consumer context which is voluntary, facilitating conditions has been noted as a significant influencing factor (Venkatesh, 2012). The researchers noted that in a voluntary context the facilitating conditions available may differ across the mobile devices, technology generations and access to information; that is in an equal environment, individuals with lower levels of facilitating conditions will have a lower intention and individuals having a higher level of facilitating conditions will have higher intentions to adopt mobile technologies (Venkatesh, 2012). In emerging economies such as Bangladesh where there is a discrepancy in uptake of technology due to difference in financial conditions, facilitating conditions can prove to be a significant influencing factor for the intention to adopt mobile technology for fashion shopping. Thus the following hypotheses are proposed:

**H4:** Facilitating conditions will significantly influence on behavioural intention toward using mobile technology for fashion shopping in Bangladesh.

### **Hedonic Motivation**

The pleasure or entertainment obtained from using a particular technology is referred to as hedonic motivation and it plays a significant part as direct determinant of intention to use technologies (Brown and Venkatesh, 2005). Yang (2010) argued that the hedonic aspect of technologies related to mobile shopping services is a crucial element influencing the intention to accept and use those services and technologies among the US consumers. In research of various areas related to the acceptance of information technology such as fashion, hedonic motivation (which has been theorized as perceived enjoyment in preceding models) is assumed to be a direct determinant of adoption and usage of technology e.g., (Van der Heijden, 2003; Thong, Hong and Tam, 2006; Ko, Kim and Lee, 2009). Furthermore, Consumers who associate enjoyment with the use of mobile devices are more inclined to show positive attitude towards mobile technologies such as mobile commerce. Several researchers have found hedonic motivation (Conceptualised as perceived enjoyment) as a major influencer of acceptance and usage of technology e.g. (Van der Heijden, 2003). Emotional benefits to fulfil the affective requirements from products or services are vital to consumers in order to create value in mobile commerce (Park and Yang, 2006; Yang and Jolly, 2006; Kim, Chan and Gupta, 2007; Kulviwat *et al.*, 2007). This is similar to Kim, Jin Ma and Park (2009) suggestions that enjoyment assists in increasing the perceived value which consequently will encourage adoption intention. In a retail scenario, emotional value was found to be the most significant predicting factor of behavioural intention to purchase any product or services (Sweeney and Soutar, 2001). Although there is a lack of findings regarding the function of hedonic motivations as an indicator of adoption of mobile technology in fashion shopping, the recommendations from the literatures, Kim, Jin Ma and Park (2009) in particular leads to the following hypothesis for this study:

**H5:** Hedonic motivations will significantly influence behavioural intention toward using mobile technology for fashion shopping in Bangladesh.

### **Price Value**

Price value is another important element of adoption of any technology in a consumer context. It can be defined as the rational exchange between the apparent gains of using any particular technology and the cost associated with its usage (Dodds, Monroe and Grewal, 1991). Price value has been found to be an important factor for determining the intention to

adopt mobile technology in several researches, especially in emerging economies e.g. (Tsu Wei *et al.*, 2009). There is a possibility that this monetary values related to the use of any particular technology can have a major influence on consumer's intention to use that technology (Chang, 2012).

Venkatesh et al. (2012) integrated this construct into the UTAUT2 to adjust the theory to the consumer context; the theory assumed that if the advantages of employing a particular technology is believed to be more than the financial cost the price value will be favourable and consequently have an affirmative influence on the intention to use that technology. As Bangladesh is an emerging economy that recently rose to the lower-middle income status, financial benefits might be of particular significance to them and consequently a significant factor for determining the intention to use any technology. Considering all the above statements, this research proposed the following hypotheses.

**H6:** Price value will significantly influence behavioural intention toward using mobile technology for fashion shopping in Bangladesh.

### **Habit**

Habit can be defined as the degree to which individuals are likely to behave in a particular way because of previous learnings (Limayem, Hirt and Cheung, 2007). Kim and Malhotra, 2005 associated habit with spontaneity. Furthermore, (Kim and Malhotra, 2005) has also perceived habit as previous behaviour. Based on the theory of planned behaviour, it is assumed that continual execution of behaviour can consequently lead to firm behavioural intentions (Ajzen and Fishbein, 2000).

The prior use of similar kind of technology might be an assisting factor towards the intention to use a technology as (Kim and Malhotra, 2005) have also asserted the importance of prior experience as a significant component of forming habit. Consumers in Bangladesh have been using mobile technology for quite some time now. Especially the younger consumers who were born around the late 1990's and in the 2000's has been using smart mobile devices for a considerable amount of time now. Mobile technology such as mobile internet has been popular in Bangladesh for more than a decade. Therefore there is a good possibility that this previous experience with mobile technologies will have a significant positive influence on the intention to use mobile technology for shopping. Thus this research proposes the following hypotheses:

**H7:** Habit will significantly influence behavioural intention toward using mobile technology for fashion shopping in Bangladesh.

### **Real Time search and Evaluation (RSE)**

Mobile technologies in shopping can be distinguished from the other forms of shopping in terms of providing value by offering more convenience and access irrespective of time and place (Clarke, 2001). Such flexibility allows consumers to download and use real time information regardless of the time and place they are in. Lee and Park, (2006), discovered that characteristics of mobile internet, such as instant access to information and the ability to get personalized information are significant precursors of attitude towards using mobile technology. Based on the literatures in chapters 2 and 3, this research has found that the flexibility mobile devices and technologies offer in terms of instant access to information and the ability to share and evaluate product information in real-time has a significant positive influence on the adoption and use of mobile devices. In relation to time cost, the ability to get relevant information in real time is a significant benefit that creates value of mobile services for consumers. Ko, Kim and Lee (2009) has utilised a similar construct 'instant accesses in

their research. Furthermore, several studies has found speed, effectiveness and time as the main benefits of technology usage in a retail setting e.g. (Clarke, 2001; Lee and Park, 2006; Kleijnen, De Ruyter and Wetzels, 2007). Given the over strained transportation infrastructure in Bangladesh and the current use of mobile devices in Bangladesh such flexibility in getting information can be an important factor towards the adoption intention of mobile technologies in shopping. Therefore, this research proposes the following hypothesis:

**H8:** Ability to search and evaluate product information in real time will positively influence consumer’s behavioural intention toward using mobile technology in Bangladesh.

**Behavioural Intention**

**Research Model Development**

The following model is proposed based on the hypotheses to be examined. This empirical research model will be employed to reveal the factors which can elucidate the individual adoption of mobile technology for fashion shopping in Bangladesh in a better manner. In this proposed model, relationships between the independent (exogenous) and dependent (endogenous) constructs were explored. No previous comprehensive research model regarding the intention to adopt and use mobile technology in fashion shopping in Bangladesh has endeavoured to explore the influence of these specific independent variables according to the researcher’s best knowledge. The propositioned relationships between the endogenous and the exogenous constructs are demonstrated in Figure 4.1 below.

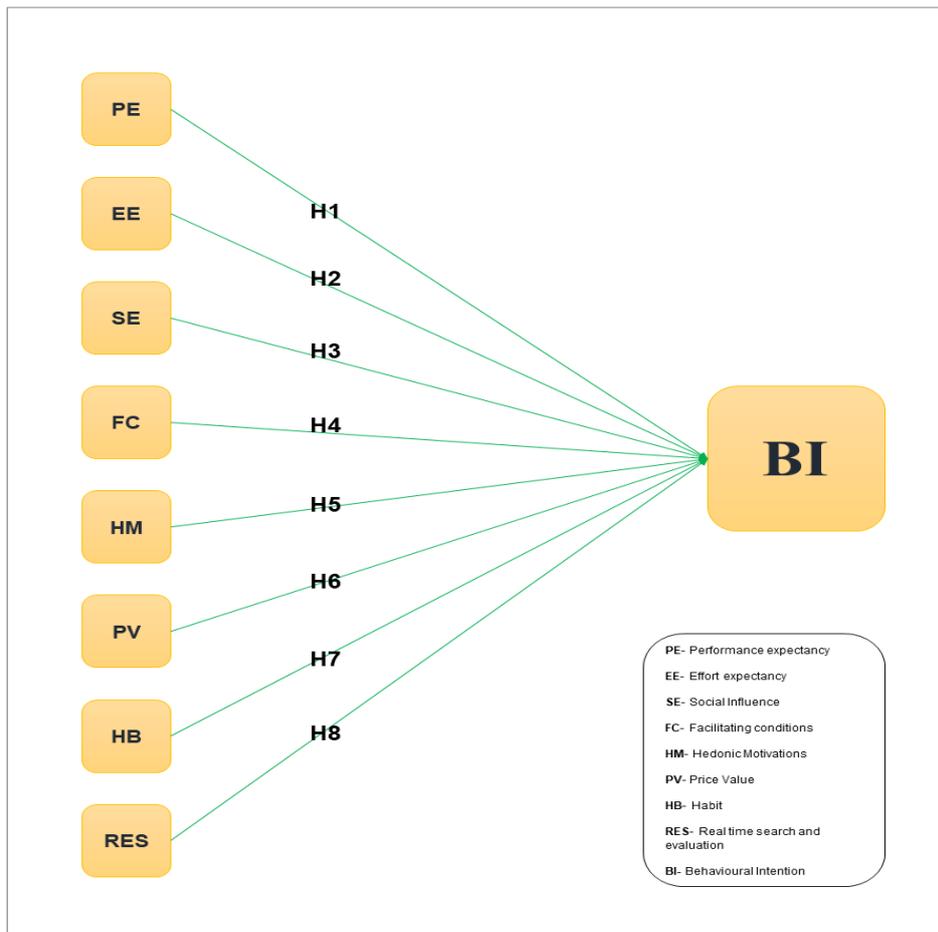


Figure. 2 Proposed conceptual model development for adoption of Mobile technology in shopping in Bangladesh (Conceptualised by the researcher).

## METHODS

### Measurement development

A self-administered questionnaire was conceptualised based on the existing scales found in literatures which consisted predominantly of questions related to mobile technology characteristics and intention to adopt mobile technology for fashion shopping. Subsequent to the formation of the initial questionnaire, an in-depth interview was carried out with academics, graduate and doctoral students to enhance the instruments. These interviews allowed the researcher to evaluate the effectiveness of the instruments in terms of encapsulating the anticipated phenomenon. The final questionnaire was drafted based on the inputs from the respondents with a few minor amendments. Thirty items associated with mobile commerce characteristics were extracted from the literature, incorporating both extrinsic and fundamental benefits (Kim, Jin Ma and Park, 2009; Ko, Kim and Lee, 2009, Venkatesh et al., 2012, Venkatesh et al., 2003). The items were measured on 5 point likertscale with anchors of 1- Completely disagree and 5- completely agree. Demographic variables were incorporated for descriptive purpose.

### Sampling and Data collection

The study sample covered Bangladeshi consumers who use wireless internet services through their mobile devices. Cluster sampling methods were employed for selecting the sample. To ensure that all respondents had the same understanding of mobile shopping they were informed about the definition of mobile shopping and subsequently asked to complete the self-administered questionnaire that focused on fashion products. To collect data, a questionnaire survey was conducted.

A total of 383 usable questionnaires were obtained, with respondents consisting of 130 females (34%) and 253 males (66%). In age distribution, the majority of respondents were in the group belonging to the 18-25 years olds (74%). Regarding the usage experience, about 78% of the respondents had at least 3 years of experience with mobile devices and 93% of the respondents use mobile devices for at least 3 hours a day. About 68% of the surveyed participants reported that they have made a purchase of a fashion product using mobile devices and technology at least once in the past years. This suggests that the sample represented prospects with high level of involvement regarding the usage of mobile technology in Bangladesh.

### Data analysis

Confirmatory Factor Analysis (CFA) was used to assess the validity of the measures while the inter item reliability was established using Cronbach's alpha. This research also employs composite reliability statistics along with the Cronbach's Alpha to ensure adequate reliability. In composite reliability statistics, a value greater than 0.7 is perceived to have good reliability (Hair Jret et al., 2016). Convergent and discriminant validity of the constructs were examined to ensure the legitimacy of the constructs in the measurement model with 'Average Variance Extracted (AVE). In AVE, a value more than 0.5 establishes that the overall construct possess more variance with its indicator compared to the error variance (Li et al., 2014; Hair Jret et al., 2016; Henseler, Hubona and Ray, 2016). In addition to convergent validity, this study also tested the discriminant validity using 'Fornell-Larcker measuring value' was used which reveals collinearity in the inner model in the primary stages of the model evaluation process (F. Hair Jret et al., 2014). For testing of the hypotheses, this study utilized a structural equation model including the structural and measurement model. PLS-SEM (Partial Least Square-Structural Equation Modelling) was employed to investigate the structural model. The assessment of the structure model was carried out through the evaluation of path coefficients, coefficient of determination ( $R^2$ ) and prediction relevance ( $Q^2$ ).

## RESULTS AND DISCUSSIONS

### Structural equation modelling

A single-stage analysis with instantaneous assessment of both measurement and structural models was carefully chosen because the model is theoretically based, and the constructs of m-commerce features were primarily confirmed to be reliable and valid. In the structural equation model exhibited in Figure 2, there were nine latent constructs for adoption intention of mobile shopping: the eight exogenous constructs being performance expectancy (PE), effort expectancy (EE), social influence (SE), Habit (HB), Hedonic Motivations (HM), Facilitating Conditions (FC), Price Value (PV) and real-time serach and evaluation (RSE) and the one endogenous constructs being Behavioral Intention (BI).

### Measurement model results

The measurement model results depicted in Table 1 specifies that the factor loadings for each construct was statistically significant and were greater than 0.6 (ranging from 0.624 to 0.924), while the internal consistency reliabilities (Cronbach's alpha) ranged from 0.62 to 0.85 (Table 2). The composite reliability of each construct surpassed the suggested level of 0.70 with a minimum of 0.795 (Table 2). The Average Variance Extracted by the items measuring a construct was greater than 0.50 (Table 2). Thus the result point towards satisfactory level of convergent validity (Bagozzi & Yi, 1988).

Constructs	Items	BI	EE	FC	HB	HM	PE	PV	RSE	SE
Behavioural Intention	BI1	0.613								
	BI2	0.925								
	BI3	0.933								
Effort expectancy	EE1		0.873							
	EE2		0.924							
	EE3		0.851							
Facilitating Condition	FC2			0.642						
	FC3			0.816						
	FC4			0.788						
Habit	HB1				0.854					
	HB2				0.897					
	HB3				0.819					
	HB4				0.796					
Hedonic Motivation	HM1					0.832				
	HM2					0.822				

Constructs	Items	BI	EE	FC	HB	HM	PE	PV	RSE	SE
	HM3					0.68 1				
Performance Expectancy	PE1						0.75 6			
	PE2						0.79 5			
	PE3						0.73 5			
Perceived Value	PE4						0.72 5			
	PV1							0.65 7		
	PV2							0.72		
	PV3							0.81 7		
	PV4							0.65 7		
Real-time search and Evaluation	RSE4								0.66 6	
	RSE5								0.70 4	
	RSE6								0.83 7	
	RSE7								0.80 8	
	RSE8								0.71 9	
Social Influence	SE1									0.88 7
	SE2									0.50 1
	SE3									0.89 9

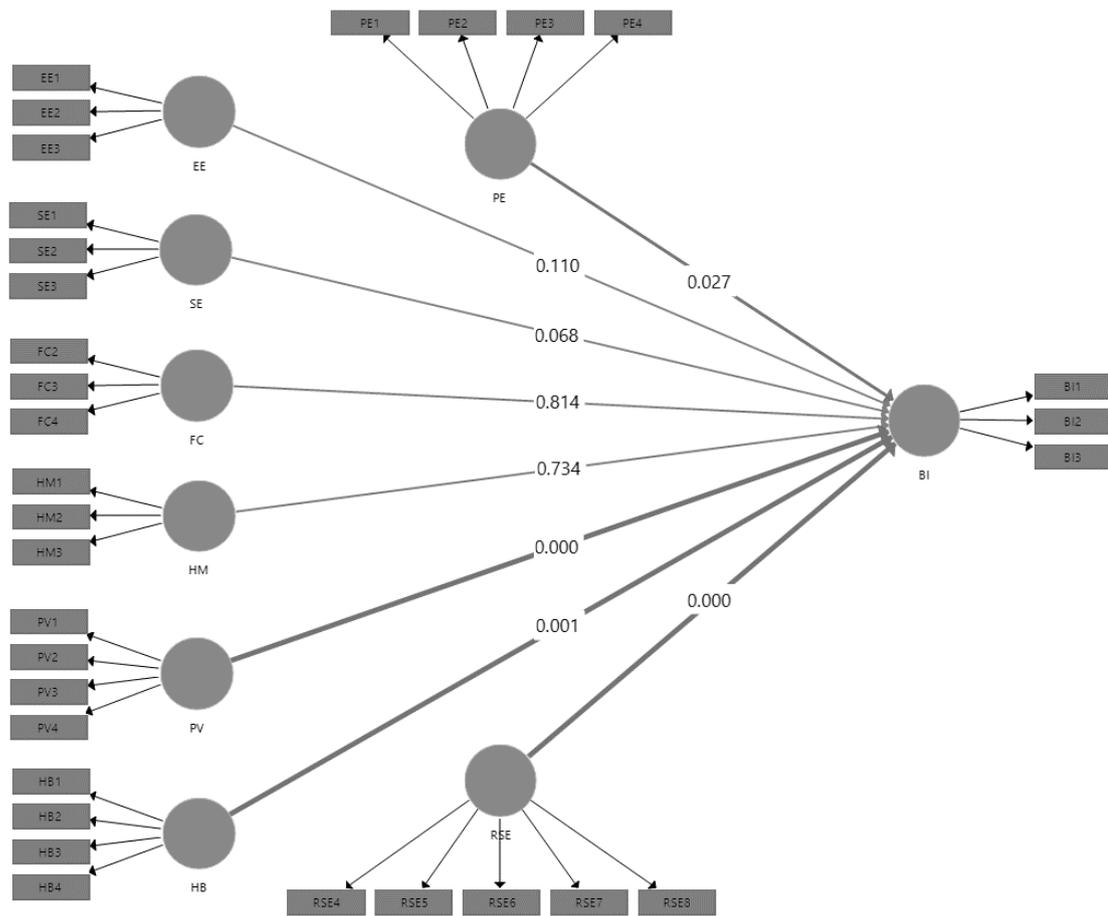
Table 1 Outer loading of the factors

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Behavioural Intention (BI)	0.763	0.872	0.7
Effort Expectancy (EE)	0.859	0.914	0.78
Facilitating Conditions (FC)	0.623	0.795	0.566
Habit (HB)	0.863	0.907	0.709

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Hedonic Motivation (HM)	0.677	0.824	0.611
Performance Expectancy (PE)	0.746	0.84	0.567
Price Value (PV)	0.682	0.806	0.512
Real-time Search and Evaluation (RSE)	0.805	0.864	0.562
Social Influence (SE)	0.716	0.819	0.615

**Table 2: Validity and Reliability for the factors**

Structural equation modelling results



**Figure 3: PLS-SEM analysis of the conceptual research model- statistical significance (p value)**

Performance expectancy has a strong positive relationship with behavioural intention ( $t = 2.15, p < 0.05$ ), signifying that performance expectancy has a noteworthy influence on participant’s behavioural intention to adopt mobile technology for shopping. The corresponding relations are supported for the constructs.

Facilitating conditions exhibited a weak positive and insignificant relationship ( $t = 0.264, p > 0.05$ ) with behavioural intention of the participant's adoption of mobile technology for shopping which signifies that facilities available to the participants in Bangladesh did not influence the intention to adopt mobile technologies for fashion shopping. The corresponding relations are not supported for the constructs.

Nor did social influence exhibit any significant relationship to behavioural intention to adopt mobile technology for shopping in Bangladesh ( $t = 1.878, p > 0.05$ ). Although it was very close. These results shows that there was a lack of social influences at the time of study on the behavioural intentions of the participants to adopt mobile technology for fashion shopping in Bangladesh. Therefore, the corresponding relations are not supported for the constructs.

However, price value demonstrated a very strong positive relationship ( $t = 6.272, p < 0.05$ ) with behavioural intention, indicating that the participant considers the values they gain from using mobile technology for shopping has a very strong positive influence on their adoption of mobile technology for fashion shopping. The corresponding relations are supported for the constructs.

Similarly, Real-time search and evaluation also demonstrates a very strong positive relationship ( $t = 4.596, p < 0.05$ ) with behavioural intention. This signifies the importance of flexibility in obtaining and evaluating information regarding fashion products and its strong influence on the participant's intention to adopt mobile technology for fashion shopping. The corresponding relations are supported for the constructs.

Habit also exhibited a strong positive relationship with behavioural intention ( $t = 3.322, p < 0.05$ ). It means that usage habit of the participants strongly influence their adoption of mobile technology for fashion shopping in Bangladesh. The corresponding relations are supported for the constructs.

Effort expectancy demonstrated a weak negative and insignificant relationship with behavioural intention ( $t = 1.631, p > 0.05$ ), indicating that most the participants were concerned to a little extent about the efforts required to adopt mobile technology for fashion shopping although it was not statistically significant. The corresponding relations are not supported for the constructs.

Hedonic Motivation had an insignificant negative relationship with behavioural intention ( $t = 0.328, p > 0.05$ ). However it was insignificant, indicating that hedonic motivation does not have any significant influence on the participant's adoption of mobile technology for fashion shopping. The corresponding relationships are not supported for the constructs.

## **DISCUSSION AND CONCLUSION**

In accordance with the hypothesis testing in the model, performance expectancy, price value, habit and real-time search and evaluation were found to be supported (Table 8.2). The potential justifications supporting these constructs are discussed in this section.

The model found a strong positive relationship ( $p < 0.05$ ) between the target population's performance expectancy and their behavioural intention to adopt mobile technology for fashion shopping in Bangladesh. Performance expectancy's positive influence on behavioural intention to adopt mobile technology for fashion shopping in Bangladesh was confirmed. This might be due to the fact that the target population has sufficient experience with mobile devices and is well versed with using mobile technologies in other contexts of life such as communication entertainment and social networking. This familiarity with mobile technology

might encourage them in believing that using mobile technology for fashion shopping might be beneficial to them. The result is in accordance with most of the major technology acceptance models such as TAM and UTAUT. Park (2007); Kim, Jin Ma and Park (2009); Ko, Kim and Lee (2009); Tsu Wei *et al.* (2009), all have indicated the important influence of performance expectancy on behavioural intention.

Price value has been found to have a positive relationship with behavioural intention ( $p < 0.05$ ) to adopt mobile technology for fashion shopping in Bangladesh. This confirms the price value's positive influence on the behavioural intention to adopt mobile technology for fashion shopping in Bangladesh. This positive influence of price value on behavioural intention in Bangladesh may be pertaining to the fact that Bangladesh is still a developing country and an emerging economy. As the buying capacity of the people did not increase to a satisfactory extent, people of this country still considers price as an important deciding factor. Therefore, there is a possibility that if the use of mobile technology can provide them with value for their money they might be more inclined towards adopting this technology. Furthermore, the cost of using mobile technologies for shopping such as smartphones and 3G internet is decreasing rapidly to fulfil the Bangladesh government's effort to digitalize the entire country making it more affordable to the consumers. Therefore, they might perceive it as a more affordable option for shopping. This finding is in line with Wei *et al.*'s (2008) findings for the Malaysian consumers.

Habit and behavioural intention has also been found to have a strong positive relationship ( $p < 0.05$ ). That is the more the users are habituated to using mobile technology, the more likely they are to adopt similar kind of technology. This might be due to the fact that the target population for this study is quiet habituated to using mobile technology. Most of the participants in this study reported to have been using smart mobile devices for at least 3 years for activities like communication, entertainment and social networking. Furthermore, a majority of the participants have reported a daily usage of mobile devices for 2 hours or more. Kim and Malhotra (2005) reported that previous usage was a compelling determinant of future technology use.

The model found a strong relationship between real-time search & evaluation and behavioural intention ( $p < 0.05$ ) to adopt mobile technology for fashion shopping in Bangladesh. Thus the influence of real-time search and evaluation on behavioural intention of Bangladeshi consumers to adopt mobile technology for fashion shopping has been confirmed. This finding contradicts the preceding research finding of Ko, Kim and Lee (2009), however it is in line with the findings of Kim, Chan and Gupta (2007). This might be pertaining to the fact that in urban areas of Bangladesh people face severe time constraints. The ability to search and evaluate product information in real time might save a significant amount of time for them. Furthermore, the transportation infrastructure is not entirely sufficient for the population, thus makes it fairly difficult to move around. In such situations the real-time search and evaluation might allow them to make informed decisions without having to visit several stores which can require significant amount of time and effort. Moreover, in non-urban areas, the ability to search and evaluate product information in real time might be particularly useful for making purchase decisions as there is a limited number of options available for them locally.

This model found no significant relationship between that target populations effort expectancy and their behavioural intention to adopt mobile technology for fashion shopping ( $p > 0.05$ ) indicating that the consumers in Bangladesh does not consider effort expectancy as a significant determinant of their adoption of mobile technology for fashion shopping. Although his finding opposes the earlier research findings of Park (2007); Kim, Jin Ma and

Park (2009); Ko, Kim and Lee (2009) and Wei *et al.*'s (2008) findings for the Malaysian consumers supports the findings of this research. The possible reason for this can be that the majority of the users of mobile devices and technologies in Bangladesh are relatively young and generally youth are more responsive towards novel innovations. There is a probability that they may have experience of using different technologies and consequently possess adequate knowledge on how to use the technology. Therefore, it might be possible for them to learn the technologies related to fashion shopping fairly easily. In such situation there is a possibility that the ease of use or the difficulty level associated with using such technology will not be an influencing factor on their decision to use them.

This research found social influence to be insignificant in relation to behavioural intention ( $p > 0.05$ ) for adoption of mobile technology for fashion shopping in Bangladesh. This result indicates that social influence is not a determining factor for Bangladeshi consumers in the context of adoption of mobile technology for shopping. This finding contradicts the findings of preceding studies such as Kim *et al.*, (2008), Park *et al.*, (2007) and Wei *et al.*, 2008. However, this result is consistent with Venkateshet *al.*'s (2003) statement that social influence can be insignificant in a voluntary context. Furthermore, a survey by MasterCard in emerging south-east Asian economies such as Malaysia and Indonesia found that less than 15% mobile shoppers there are actually influenced by their social surrounding (Statista, 2017f).

This model found no significant relationship between facilitating condition and target population's behavioural intention ( $p > 0.05$ ) to adopt mobile technology for fashion shopping in Bangladesh. This might be due to the fact that in predicting behavioural intention, facilitating conditions turns out to be redundant if both performance expectancy and effort expectancy constructs are present within the model (Venkatesh *et al.*, 2003). This finding is consistent with several technology acceptance models such as UTAUT and the extended UTAUT. Furthermore, this finding is also in line with Park *et al.*'s (2007) findings who explored acceptance of mobile technology in Chinese consumers.

In this model, hedonic motivation was not found to have a significant relationship with behavioural intention ( $p > 0.05$ ) for adoption of mobile technology for fashion shopping in Bangladesh. It indicates that consumers in Bangladesh do not perceive hedonic motivation as a determining factor for adoption of mobile technology in fashion shopping. This finding contradicts the findings of preceding research of Ko *et al.*, (2009) and Kim *et al.*, (2008) who explored the adoption of mobile technologies for fashion shopping in South Korea and USA.

Although fashion shopping itself count as a hedonic activity, a lack of hedonic elements in retailers websites and social media accounts due to the fact that Bangladesh is still in the early adoption stages might have prevented the customers to have adequate hedonic experiences regarding the use of mobile technologies used for fashion shopping. As mentioned in chapter 2, the fashion retailers in Bangladesh provides limited use of mobile devices compared to the developed markets such as USA and South Korea other than payment while shopping for fashion products. This lack of hedonic experience might have influenced the outcome. However, it is possible that with increased experience hedonic motivations might prove be a significant determining factor of behavioural intention for adopting mobile technology for fashion shopping in Bangladesh.

From a managerial standpoint, the results of this study provide implications for practitioners in mobile fashion commerce. The proposed model is useful for predicting how far targeted consumers intend to buy products or services by perceiving value in the characteristics of m-commerce .Of special interest to managers is the finding that performance expectancy has

influential effects on consumer's adoption intention. Thus, marketers imaginably need to manage new product or service development on m-shopping sites (Wu & Wang, 2006), particularly when it comes to implementing strategies with respect to the performance expectancy perceived by special target customers who intend to adopt a particular technological innovation. In addition, marketers should strike a balance between value and cost by offering positive, extrinsic need-driven value while keeping the cost of mobile shopping reasonable. Especially for feel-and-touch products (e.g., apparel, accessories, jewelry, and so on), m-commerce marketers should progress toward a more customer oriented strategy by focusing on instrumental personalization of mobile shopping site design and implementation (Fan & Poole, 2006; Lee & Park, 2006) in order to gratify profitable customers. When it comes to fashion products, the real-time search and evaluation factor suggests that marketers should consider provide customers with facilities in-store such as Wi-Fi and create a strong presence online to help encourage consumers to adopt mobile shopping to buy fashion products. Marketers can design their campaigns to communicate not only on online platforms or in the physical stores but create a seamless experience for customers which generate positive feelings that mobile shopping elicits. However, Mobile shopping in the area of fashion products is still in its infancy, especially in countries like Bangladesh, and our conclusions may not sustain for an extensive period of time, given the rapid development of m-commerce technology and the increasing number of smart mobile consumers. The findings of this study should be interpreted with caution due to the sampling limitation within a selected country (Bangladesh) in a specified mobile shopping context. With increasing debate on the issue of gender identified as a covariate (Nysveen, Pedersen, & Thorbjørnsen, 2005; Venkatesh & Morris, 2000), quantitative validation testing between multiple groups (e.g., gender) should be considered for the study of technology adoption theory. More reliable scales of instant connectivity and perceived value should be developed through qualitative approaches (e.g., focus group interviews) for depth of data in the context of mobile shopping. It is also recommended that adoption agents—innovation, perceived risk, and situation—be examined to ascertain how those variables influence technology adoption for intent to purchase via the mobile shopping channel(s). Moreover, individual characteristics, such as lifestyle and values, may be important determinants in segmenting adopter categories of mobile shopping over time. Such studies can expand technology adoption models across different product categories in a variety of cultural settings.

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