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ISSN 2148-6670



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## AFFORDANCE-BASED VIEW OF THE EFFECTS OF SELF-SERVICE TECHNOLOGY INTERACTIONS ON POST-PURCHASE BEHAVIORAL INTENTION

DOI: 10.17261/Pressacademia.2020.1193

JMML- V.7-ISS.1-2020(1)-p.1-17

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Date Received: January 10, 2020

Date Accepted: March 22, 2020

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### To cite this document

Chou, C.H., Lii, Y.S., (2020). Affordance-based view of the effects of self-service technology interactions on post-purchase behavioral intention. *Journal of Management, Marketing and Logistics (JMML)*, V.7(1), p.1-17.

Permament link to this document: <http://doi.org/10.17261/Pressacademia.2020.1193>

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### ABSTRACT

**Purpose-** The purpose of this study is to explore the influence of SST interaction experiences on service quality, consumer satisfaction, and the subsequent behavioral intentions of electronic word-of-mouth and repurchase.

**Methodology-** The research design adopts the convenience sampling method to survey consumers of an SST hotel located in central Taiwan, utilizing an on-site questionnaire upon checkout.

**Findings-** Findings indicate that interaction experiences, such as functional affordance and cognitive affordance, have a positive effect on SST's service quality and satisfaction. Customers with an excellent evaluation of SST service quality are more likely to be satisfied with SST and more willing to recommend or choose the same service in the future. Results also suggest that perceived self-control has a moderating effect on the relationship between cognitive affordance and SST service quality and satisfaction with SST.

**Conclusion-** This study develops a new model of the self-service technology (SST) interaction experience. This new model fills a research gap by providing an empirical study of the repeated use and commitment phases of the SST adoption model grounded in innovation diffusion theory.

**Keywords:** Self-service technology (SST), interaction experience, service quality, electronic word-of-mouth (eWOM), repurchase intention.

**JEL Codes:** M31, D91, Q55

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## 1. INTRODUCTION

On January 22, 2018, "Amazon Go" officially launched in Seattle, the United States. This innovative service uses in-store cameras, sensors, and deep learning algorithms to automatically identify items that consumers are removing from the store. Consumers do not need to scan the barcode through the checkout counter; instead, the system automatically charges them accordingly when they walk out of the storefront. This marks the first time in history that a company has tried to integrate mobile devices, cloud computing, computer vision, sensor fusion, deep learning algorithms, and other technologies to achieve the "Just Walk Out" shopping experience (Polacco and Backes, 2018). The store's launch represents a new milestone in the self-service technology (SST) experience.

Providing services through SST facilitates transactions in which buyers and sellers do not need direct contact (Meuter, Ostrom, Roundtree, and Bitner, 2000). This approach makes it more efficient both for employees to provide services and for customers to receive services, thus reducing labor costs (Globerson and Maggard, 1991) and improving business productivity (Bitner, Zeithaml, and Gremler, 2010). Introducing SST may benefit the service industry, however, lack of interpersonal interaction may even lead to decreased customer loyalty (Kim and Qu, 2014). A terrible initial interaction may lead an adopter to feel unwilling to use SST again

(Wang, Harris, and Patterson, 2012). Enterprises experience harm when these related negative experiences spread widely through word of mouth. These issues are crucial to both management and theoretical development. Therefore, further exploration of this topic is necessary.

Based on Roger's (2003) innovation diffusion theory, Bitner, Ostrom, and Meuter (2002) developed a model of SST adoption, which divides the adoption process into six phases: awareness, investigation, evaluation, trial, repeated use, and commitment. Most studies on SST have focused on the evaluation and trial phases (Wang, Harris, and Patterson, 2013), examining the intention to adopt SST, decisions about whether to use it (Blut, Wang, and Schoefer, 2016; Meuter, Bitner, Ostrom, Brown, 2005), and how consumers' attitudes toward SST affect their adoption intention (Wang et al., 2012). By contrast, fewer studies have focused on the stage of repeated use and commitment. In other words, previous SST literature has focused less on the subjective experience of consumers after actually using SST (Wei, Torres, and Hua, 2017), the perceived service quality after using SST (Kallweit, Spreer, and Toporowski, 2014; Lee), and the satisfaction with SST after using it (Djelassi, Diallo, and Zielke, 2018). Still fewer studies have explored how SST evaluation affects subsequent consumer's behavioral intention through means such as word-of-mouth communication (Robertson, McDonald, Leckie, and McQuilken, 2016) and repurchase intention (Eriksson and Nilsson, 2007; Robertson et al., 2016), even though these topics are essential issues (Beatson, Lee, and Coote, 2007). Therefore, this study proposes a conceptual model to explore SST interaction experiences in the post-usage phase, the effect of these experiences on SST service quality and satisfaction, and the relationship between these influences and consumers' subsequent behavioral intentions, including word-of-mouth recommendation and repurchase intention.

## **2. LITERATURE REVIEW**

### **2.1. Evaluation of Self-Service Technology (SST)**

Meuter et al. (2000) defined SST as "technological interfaces that enable customers to produce a service independent of direct service employee involvement." The introduction of SST is a common way to achieve superior customer service across industries (Eriksson and Nilsson, 2007), and more and more companies are using SST to deliver innovative services (Kim, Christodoulidou, and Brewer, 2012), especially in service-oriented industries where both efficiency and service quality are essential, such as retail, catering, and tourism (Oh, Jeong, and Baloglu, 2013). As technology progresses, SST continues to evolve and play an increasingly critical role in providing services (Beatson et al., 2007).

Parasuraman, Zeithaml, and Berry (1985) explored the quality of service based on customer's expectations and experiences and argued that service quality depends on the difference between the customer's expected performance and assessment of the service. When SST replaces employees, part of the service quality depends on the interaction between consumers and the SST. Because SST requires consumers to participate in the service process, they are concerned with not only the outcome of service quality but also the process of service quality (Globerson and Maggard, 1991). Regardless of the process or outcome, the smaller the gap between the consumer's expectations of SST and the perceived outcome after their use, the better the perceived service quality. Therefore, this study defines SST service quality as the overall evaluation of effectiveness based on the difference between the consumer's expectation and the actual experience of SST.

In an SST setting, Lee (2008) argued that satisfaction is the extent to which consumers feel positive after using SST. Djelassi et al. (2018) observed that satisfaction with SST arises from the consumers' overall appraisal of the entire process of using SST, including the sum of positive feelings that consumers perceived before using SST, while using SST, and following the outcome provided by SST. Therefore, customer satisfaction with SST can be regarded as the extent of consumers' subjective positive feelings resulting from comparisons of their expectations before using SST, their experiences using SST, and the final result provided by SST.

If the consumer's overall evaluation of SST's service quality is excellent, they believe that their actual experience of SST is in line with pre-use expectations or even that the performance of SST is unexpectedly good. Based on expectation-confirmation theory, customers feel satisfied when the provided service meets or exceeds their expectations (Oliver, 1980). Therefore, this study proposes the following hypothesis:

H1: SST service quality has positive effect on satisfaction with SST.

### **2.2. SST Interaction Experiences and SST Evaluation**

Based on previous research (Vakulenko, Hellström, and Oghazi, 2018), this study applies the theory of affordance to explore the utilitarian value of SST interaction experiences and its influence on SST evaluation from the perspective of human-machine

interaction (HMI). The theory of affordance was introduced by psychologist Gibson (1979), who believed that affordance is a type of dynamic relationship that exists between animals and the natural environment. Norman (1988) extended the concept of affordance to the HMI design field. He argued that the affordance of an object is a dynamic relationship between the object and the user, which depends on the design features of the object and the user's ability and intention to manipulate the object. McGrenere and Ho (2000) pointed out that the user's intention and ability determine the user's relationship with the design attributes of the object. The affordance of an object only exists if users intend to use and are capable of operating the object. Consequently, the affordance of the same object may vary among different users.

### **Functional Affordance**

Grgecic, Holten, and Rosenkranz (2015) defined functional affordance as the link between artifacts and operators under specific situations. Hartson (2003) argued that the purpose of functional affordance is to provide the necessary design to assist the user in accomplishing a task. McGrenere and Ho (2000) explored the relationship between affordance and usefulness and suggested that the usefulness of a design depends on what affordance it can offer operators in accomplishing their tasks. Past studies have defined usefulness as the ability of users to perform accurate and reliable tasks with the system (Yen, 2005) or the extent to which the system can assist users can achieve their mission (Ho and Ko, 2008). Therefore, in an SST setting, functional affordance can be regarded as a dynamic link relationship among SST design features, the consumer's ability, and their intention to use the technology, which can help users to complete their task accurately and reliably.

Past study have demonstrated out that service reliability is a critical factor of service quality (Parasuraman et al., 1988). When providing services through SST, reliability becomes an essential aspect of service quality (Orel and Kara, 2014; Shahid Iqbal, Ul Hassan, and Habibah, 2018). Therefore, we propose the following hypothesis, consistent with the study by Grgecic et al. (2015).

H2a: Functional affordance has a positive effect on SST service quality.

Past studies have also exhibited positive relationships among reliability, usefulness, and satisfaction (Barua, Aimin, and Hongyi, 2018; Narteh, 2015; Robertson et al., 2016); therefore, we propose the following hypothesis:

H2b: Functional affordance has a positive effect on satisfaction with SST.

### **Cognitive Affordance**

Hartson (2003) defined cognitive affordance as a design feature that facilitates or helps operators understand a process. Excellent cognitive affordance assists users in understanding the operation through clear and perceptible guidance. When the design of the system's affordance is apparent to the user and its function meets the original design goal, the system will be easy to use (Gaver, 1991). Therefore, cognitive affordance can be regarded as a type of dynamic relationship among system accessibility, consumer ability, and intention to use, which can help users to complete their tasks without effort.

Hartson (2003) argued that for the new and infrequent users, the focus of cognitive affordance is to provide ease of learning for unfamiliar users, which means that the cognitive affordance determines a design's ease of use, which is the extent to which users believe they can use a specific system without effort (Davis et al., 1989). Moreover, past studies have indicated that in the context of replacing personnel with technology, the ease-of-use of technology is an essential factor determining service quality (Dabholkar, 1996; Lee et al., 2013; Lin and Hsieh, 2011). Thus, cognitive affordance determines the ease of use of SST design, an essential factor of service quality. Therefore, the study proposes the following hypothesis:

H3a: Cognitive affordance has a positive effect on SST service quality.

Past studies have also identified a positive relationship between ease-of-use and satisfaction (Kim and Qu, 2014; Gunawardana and Perera, 2015); therefore, we propose the following hypothesis:

H3b: Cognitive affordance has a positive effect on satisfaction with SST.

## **2.3. SST Evaluation and Behavior Intention**

Customer evaluation greatly affects subsequent customer behavior intentions, which in turn have a considerable influence on the company's operations. Zeithaml, Berry, and Parasuraman (1996) argued that positive behavioral intentions, including recommending services to others, saying positive things, and loyalty to the enterprise can be measured by dimensions such as word-of-mouth and repurchase intentions.

### **Electronic word-of-mouth (eWOM)**

Word-of-mouth is considered a particularly valuable tool for promoting company products and services (Abubakar and Mavondo, 2014). Compared with the marketing information of enterprises, consumers often place more trust in each other's opinions (Ng, David, and Dagger, 2011). Particularly through the Internet, its influence is correspondingly more profound. This study defines eWOM as related messages regarding the use or characteristics of a product or service, communicated in an unofficial form over the Internet.

Parasuraman et al. (1988) suggested that customers' perceptions of service quality are positively related to their willingness to recommend companies. In the context of SST, Lin and Hsieh (2006) argued that consumers' perceptions of SST service quality positively affect SST's favorable evaluation and word-of-mouth recommendations. Therefore, this study proposes the following hypothesis.

H4a: SST service quality positively affects eWOM.

Past studies have confirmed that satisfaction will positively influence the willingness of customers to recommend products or services (Xu, Peak, and Prybutok, 2015). In an SST setting, Lin and Hsieh (2007) argued that consumer satisfaction with SST will have a positive influence on favorable SST evaluations and will increase the likelihood that the consumer will recommend SST to other consumers. Liu's (2012) study indicated that SST satisfaction is positively correlated with behavioral intentions, including the willingness to recommend to others. Therefore, this study proposes the following hypothesis.

H5a: SST satisfaction positively affects eWOM

### **Repurchase Intention**

Repurchase intention can be regarded as the individual's willingness to purchase the product or continue to use the service from the same company in the future (Chen and Chen, 2017). In an SST setting, Lin and Hsieh (2006) argued that consumers' perceived SST service quality is positively related to repeat purchase intention, and Lee (2015) suggested that SST service quality is a strong predictor of future use of SST. Other SST-related studies (Shamdasani, Mukherjee, and Malhotra, 2008, Kallweit et al., 2014) have illustrated that SST service quality perception is positively related to the willingness to reuse. Therefore, this study proposes the following hypothesis:

H4b: SST service quality positively affects repurchase intention.

In an SST setting, Lin and Hsieh (2006) argued that consumers who are satisfied with SST will be more willing to purchase repeatedly. Liu (2012) suggested that satisfaction with SST positively correlates with behavioral intentions of continuing to use SST devices in the future. Other studies (Wang et al., 2013; Robertson et al., 2016) have also confirmed that satisfaction with SST is positively related to willingness to reuse. Therefore, this study proposes the following hypothesis:

H5b: SST satisfaction positively affects repurchase intention.

## **2.4. Moderating Effects of Perceived Self-Control**

Ajzen (1991) defined perceived control as the total amount that consumers think they can control their work or behavior. From a self-service perspective, perceived control over SST refers to the customer's perception of the ability to adapt and direct SST to fulfill service needs (Zhu, Nakata, Sivakumar, and Grewal, 2013). Perceived control depends on individual's belief in their control of the process and outcome of SST or the extent to which they dominate the interaction with SST (Collier and Sherrell, 2010). Therefore, in the context of SST, perceived self-control of SST refers to the total amount of control consumers perceive themselves to possess during a service encounter to dominate the interaction with SST and receive the expected result.

During the interaction with SST, customers have different ability to adapt and direct SST to fulfill their needs. Thus, the consumer's level of confidence in using SST may vary substantially (Zhu et al., 2013). Different levels of confidence will strengthen or weaken the affordance of SST, which in turn will affect the evaluation of SST service quality and satisfaction with SST. Dabholkar's (1996) study illustrated that consumers' perceived control affects their evaluation of self-service quality. Shamdasani et al. (2008) reported that perceived control exhibited the most significant impact on perceived service quality among all of the antecedents in their study. When consumers believe they have more control over the use of SST, they will be more satisfied with the quality of service. Therefore, this study proposes the following hypotheses:



H6a: Perceived self-control moderates the effect of functional affordance on SST service quality.

H7a: Perceived self-control moderates the effect of cognitive affordance on SST service quality.

Barua et al. (2018) observed that users' perceptions of their control of SST affects the perceived reliability of SST, which in turn affects customer satisfaction. Yen and Gwinner (2003) argued that when consumers think they can control SST, their relationship with service providers will be more confident, and in turn, their satisfaction with SST will improve. Therefore, this study proposes the following hypotheses:

H6b: Perceived self-control moderates the effect of functional affordance on satisfaction with SST.

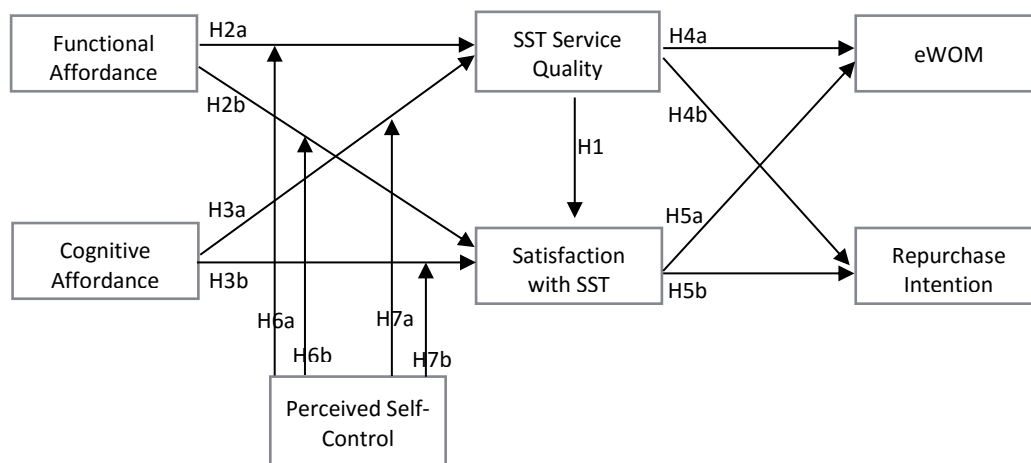
H7b: Perceived self-control moderates the effect of cognitive affordance on satisfaction with SST.

### 3. DATA AND METHODOLOGY

#### 3.1. Conceptual Model

Based on the S-O-R model, the integrated theory of affordance (Gibson, 1979), the PZB service gap model (Parasuraman et al., 1985), and expectation-confirmation theory (Oliver, 1980), this study develops a conceptual model to explore the influence of SST interaction experiences on SST evaluation and subsequent consumer behaviors. The model argues that SST interaction experiences affect consumers' evaluation of SST service quality and satisfaction with SST. The assessment of SST in turn affects the subsequent behavioral intentions of consumers. The conceptual model is shown in Figure 1.

**Figure 1: Conceptual Model of the Impact of SST Interaction Experiences on SST Evaluation and Subsequent Consumer Behaviors**



#### 3.2. Sample and data collection

The research used the convenient sampling method to conduct a questionnaire survey to the hotel guests who had used SST to obtain service. The research site was an automated hotel located in central Taiwan, which uses SST to provide services traditionally offered by personnel, such as self-check-in and check-out, luggage storage, and robotic food ordering. The hotel's guests check-in, check-out, store luggage by themselves through automated equipment and order food via robot.

Respondents were asked about their willingness to participate in the study when they completed the self-checkout by using SST before leaving the hotel. The data collection process was divided into two phases, namely the pretest and the formal investigation. First, twenty persons who had used SST were invited to complete questionnaires, which were then revised according to problems identified in the process. The final result of the pretest stage was to confirm the appropriateness of the questionnaire design. Second, the formal investigation was conducted after the pre-test phase, collecting more than 300 samples throughout four weeks. The questionnaire was based on a 5-point Likert scale, with responses ranging from 1 = *strongly disagree* to 5 = *strongly agree*, where the higher the score, the greater the extent of the subject's agreement with the measurement item.

### 3.3. Measurement

This study uses multiple measurement scales to measure each variable. All scales are constructed from previous studies and modified and adapted to the context of this study. The measurement items suitable for use in SST operations were selected, modified, and translated to Chinese as appropriate for the context of the study. The measurement items and references are shown in appendix 1 (Table 1).

#### Reliability and validity

Table 2 provides the means and standard deviations of the variables, together with the correlation between the scale reliability and each construct. The scale reliability adopts the internal consistency method to estimate the internal consistency of the scale by obtaining Cronbach's alpha values, which range from 0.80 (SST quality of service) to 0.96 (repurchase intention), thus exceeding the recommended value of 0.7 (Nunnally, 1967).

According to Fornell and Larcker (1981), this study uses compositional reliability (CR) to examine the internal consistency of multi-item scales in the model. The results of the analysis are shown in measurement model and factor loading in appendix 2 (Table 3). The CR of each construct ranges from 0.79 (SST service quality) to 0.96 (repurchase intention), thus exceeding the recommended minimum of 0.70 (Bagozzi, 1980). The results indicate that all multi-item scales in the measurement model possess adequate internal consistency for further analysis of the structural model.

**Table 2: Mean, standard deviation and correlation of variables**

Variable	Mean	SD	$\sqrt{\text{AVE}}$	FA	CA	SSTSQ	SSTSAT	eWOM	RI
FA	Mar.93	0.70	0.81	(0.85)					
CA	Mar.82	0.67	0.79	0.38**	(0.83)				
SSTSQ	Mar.93	0.60	0.75	0.58**	0.51**	(0.80)			
SSTSAT	4.Haz	0.52	0.82	0.66**	0.53**	0.67**	(0.85)		
eWOM	4.Ağu	0.53	0.77	0.43**	0.32**	0.55**	0.62**	(0.83)	
RI	4.Haz	0.61	0.95	0.45**	0.42**	0.59**	0.66**	0.88**	(0.96)

Notes: \*  $p < .05$ ; \*\*  $p < .01$ ; N = 283.; Chronbach's alpha, reported in parentheses in the diagonal, SD: standard deviation,  $\sqrt{\text{AVE}}$ : square root of AVE, FA: Functional Affordance, CA: Cognitive Affordance, SSTSQ: SST Service Quality, SSTSAT: Satisfaction with SST, eWOM: Electronic Word-Of-Mouth, RI: Repurchase Intention.

This study applies convergent and discriminant validity to determine construct validity. The standardized factor loadings and the average variance extracted (AVE) are used to measure convergent validity. The analysis results are revealed in measurement model and factor Loading in appendix 2 (Table 3). All standardized factor loadings in the construct are above 0.68 and hence can be considered significant (Hair, Black, Babin, and Anderson, 2010). In addition, Table 3 shows the AVE estimation for all constructs, all values greater than 0.50. To evaluate the discriminant validity, the square root of the AVE in each construct is compared with the correlation coefficient between the two constructs (Fornell and Larcker, 1981). The results suggest that constructs in the measurement model have an acceptable level of discriminant validity (see Table 2).

#### Common Method Variance

Because this study used self-reported measurement tools to collect samples, Harman's (1976) single factor test (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003) is applied to examine the common method variance (CMV) problem (Avolio, Yammarino, and Bass, 1991). The result of factor analysis indicates that there are five factors with eigenvalues greater than 1. The variance explained of the first factor is 46.995%, and the total variance explained is 72.999%. According to verification results, no single factor explains most of the variability, and variance explained by any single factor does not exceed the commonly accepted threshold of 50%. Thus, the CMV problem was not serious.

## 4. DATA ANALYSIS AND RESULTS

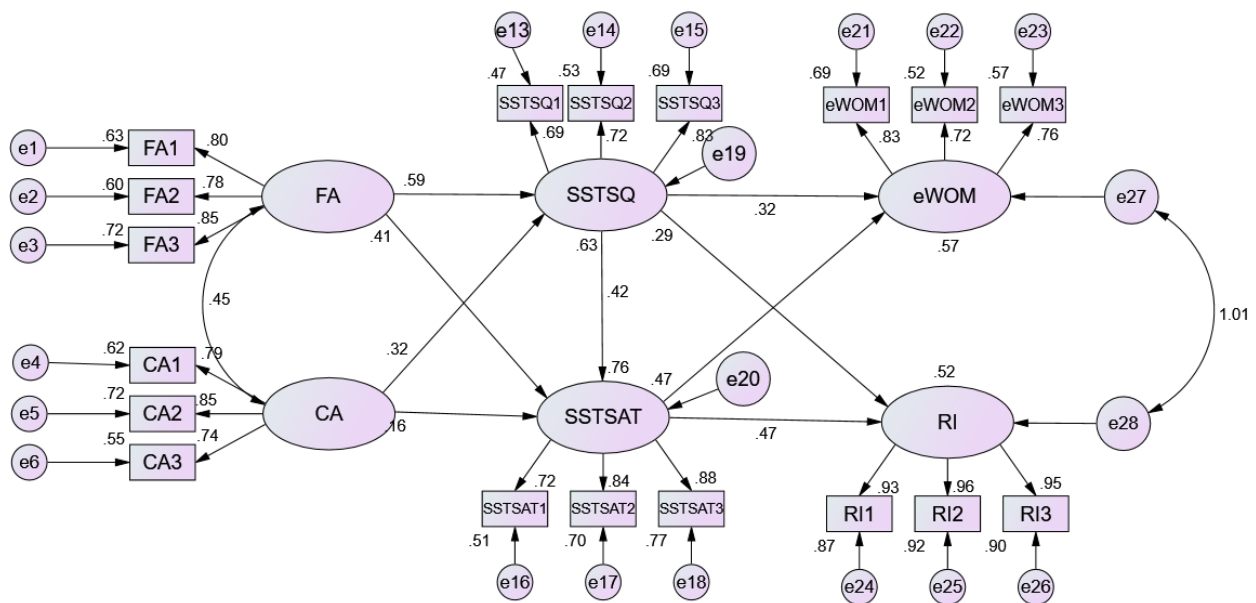
#### Structural Model Effects

This study uses structural equation modeling (SEM) to test the proposed model and hypotheses. The overall model indicates that

the chi-square value  $\chi^2$  is 520.39, and the degree of freedom is 124. Because the chi-square value is affected by the number of samples, this result is significant ( $p < .001$ ), and the value of the observed chi-square value/degree of freedom ( $\chi^2/df = 4.197$ ) is still within acceptable limits (Wheaton et al., 1977). Other fitness indexes are also used, including GFI (0.83), PGFI (0.77), TLI (0.88), CFI (0.90), PNFI (0.71), and RMSEA (0.11), and their values fall within acceptable limits (Bagozzi, 1980).

According to SEM analysis results shown in Figure 2 and Table 4, the standardized estimation of the model indicates that the SST service quality has a significant positive influence on SST satisfaction, thus supporting H1. In other words, the higher the quality of service perceived by customers using SST, the more satisfied they are with SST. This finding is consistent with previous research (Lee, 2008). As predicted, functional affordance exhibits a positive relationship with SST service quality ( $\beta = .593, p < .001$ ) and satisfaction with SST ( $\beta = .407, p < .001$ ), thus supporting Hypotheses 2 (H2a and H2b). Cognitive affordance exhibits a positive relationship with SST service quality ( $\beta = .322, p < .001$ ) and satisfaction with SST ( $\beta = .163, p < .01$ ), thus supporting Hypotheses 3 (H3a and H3b). Additionally, SST service quality positively affects eWOM ( $\beta = .032, p < .05$ ) and repurchase intention ( $\beta = .292, p < .05$ ), and its path coefficient is statistically significant, thus supporting Hypotheses 4 (H4a and H4b). Customer's satisfaction with SST positively affects eWOM ( $\beta = .471, p < .001$ ) and repurchase intention ( $\beta = .465, p < .001$ ), and its path coefficient is also statistically significant, thus supporting Hypotheses 5 (H5a and H5b).

Figure 2: Structural Equation Modeling (SEM)



Notes: FA: Functional Affordance, CA: Cognitive Affordance, SSTSQ: SST Service Quality, SSTSAT: Satisfaction with SST, eWOM: Electronic Word-Of-Mouth, RI: Repurchase Intention

**Table 4: Results of Structural Equation Modeling (SEM) Analysis**

Hypotheses	SR	CR
H1 SST service quality → Satisfaction with SST	0.422	4.308***
H2a Functional affordance → SST service quality	0.593	7.703***
H3a Cognitive affordance → SST service quality	0.322	4.807***
H2b Functional affordance → Satisfaction with SST	0.407	4.907***
H3b Cognitive affordance → Satisfaction with SST	0.163	2.700**
H4a SST service quality → eWOM	0.32	2.549*
H4b SST service quality → Repurchase intention	0.292	2.588*
H5a Satisfaction with SST → eWOM	0.471	3.782***
H5b Satisfaction with SST → Repurchase intention	0.465	4.145***

Notes: \*  $p < .05$ , \*\*  $p < .01$ ; \*\*\*  $p < .001$ ; SR: Standardized Regression; CR: Critical Ratio.

### Moderating Effects

In addition to testing the direct effects with SEM following Jones and Reynolds (2006), this study uses hierarchical regression analysis (Aiken and West, 1991) to test the hypothesized moderating effect. First, this study tests the moderating effects of perceived self-control on the relationship between functional affordance and SST service quality (H6a) and on the relationship between functional affordance and satisfaction with SST (H6b). Table 5 displays the results of the data analysis. We estimate an initial regression equation (Model 1), including SST service quality and satisfaction with SST as dependent variables respectively, and utilizing functional affordance and perceived self-control as independent variables. In Model 2, the hypothesized interactions are added. Results reveal that the functional affordance x perceived self-control interaction is not statistically significant for SST service quality ( $\beta = -0.032$ ,  $t = -0.694$ ,  $p > .05$ ) and SST satisfaction ( $\beta = 0.011$ ,  $t = 0.276$ ,  $p > .05$ ). Thus, Hypotheses 6 (H6a and H6b) are not supported.

**Table 5: Hierarchical Regression Analysis of Hypotheses 6**

	Model 1		Model 2	
	$\beta$	t-value	$\beta$	t-value
<i>Dependence variable: SST Service Quality (SSTSQ)</i>				
Independent variables:				
Functional Affordance (FA)	0.407	7.929***	0.414	7.888***
Perceived Self-Control (PSC)	0.359	7.004***	0.359	7.002***
Interactions: FA x PSC	-	-	-0.032	-0.694
R <sup>2</sup>	0.436		0.437	
F value	108.121		72.108	
<i>Dependence variable: Satisfaction with SST (SSTSAT)</i>				
Independent variables:				
Functional Affordance (FA)	0.475	10.335***	0.472	10.023***
Perceived Self-Control (PSC)	0.382	8.307***	0.382	8.291***
Interactions: FA x PSC	-	-	0.011	0.276
R <sup>2</sup>	0.547		0.547	
F value	168.977		112.305	

Notes: \*  $p < .05$ , \*\*  $p < .01$ ; \*\*\*  $p < .001$

Similarly, this study tests the moderating effects of perceived self-control on the relationship between cognitive affordance and SST service quality (H7a) and on the relationship between cognitive affordance and satisfaction with SST (H7b). Table 6 shows the

results of data analysis. We estimate an initial regression equation (Model 1), including SST service quality and satisfaction with SST as dependent variables, respectively, utilizing cognitive affordance and perceived self-control as independent variables. In Model 2, the hypothesized interactions are added. The results reveal that the cognitive affordance  $\times$  perceived self-control interaction was statistically significant for SST service quality ( $\beta = 0.120$ ,  $t = 2.507$ ,  $p < .05$ ) and satisfaction with SST ( $\beta = 0.135$ ,  $t = 2.988$ ,  $p < .01$ ), thus supporting Hypotheses 7 (H7a and H7b).

**Table 6: Hierarchical Regression Analysis of Hypotheses 7**

	Model 1		Model 2	
	$\beta$	t-value	$\beta$	t-value
<i>Dependence variable: SST Service Quality (SSTSQ)</i>				
Independent variables:				
Cognitive Affordance (CA)	0.324	6.227***	0.321	6.208***
Perceived Self-Control (PSC)	0.41	7.877***	0.381	7.179***
Interactions: CA $\times$ PSC	-	-	0.12	2.507*
R <sup>2</sup>	0.393		0.406	
F value	90.68		63.689	
<i>Dependence variable: Satisfaction with SST (SSTSAT)</i>				
Independent variables:				
Cognition Affordance (CA)	0.317	6.427***	0.313	6.426***
Perceived Self-Control (PSC)	0.469	9.498***	0.436	8.729***
Interactions: CA $\times$ PSC	-	-	0.135	2.988**
R <sup>2</sup>	0.455		0.471	
F value	116.646		82.942	

Notes: \*  $p < .05$ , \*\*  $p < .01$ ; \*\*\*  $p < .001$

## 5. DISCUSSION AND CONCLUSION

### Conclusion and Findings

The results of this study indicate that both functional affordance and cognitive affordance have a positive influence on SST service quality and satisfaction with SST. Overall, when the interaction experiences between customer and SST are more favorable, the evaluation of SST is more positive. This finding is consistent with previous research on the effect of the SST interaction experience on service quality (Grgecic et al., 2015) and customer satisfaction (Robertson et al., 2016). Compared with cognitive affordance, functional affordance has a greater influence on SST service quality and satisfaction with SST. One possible explanation is that ease of use is more important in members' initial SST adoption decision, rather than in the case of those who already use these SSTs (Robertson et al., 2016). Another possible reason is that most people (83.5%) in this survey were encountering this type of service for the first time. According to Dabholkar (1996), customers may be especially worried about new technology-based forms of service because they may envision some performance risk in that these services may not work well or deliver the expected level of reliability. Therefore, customers are especially concerned about the functional affordance of SST. In addition, the reason may also be related to the type of SST. Usually, customers who use public SST need to ensure fast and successful use of SST because they do not want to feel embarrassed or they delay others (Gelbrich and Sattler, 2014).

Analysis of the structural model also indicates that SST service quality plays a crucial role in improving SST satisfaction and behavioral intentions. The higher the customers' evaluation of SST service quality, the higher their satisfaction with SST, which is consistent with previous findings (Lin and Hsieh, 2006; Shamdasani et al., 2008). They are also more willing to recommend the service to friends or others and to choose the service at a later opportunity. This result is consistent with the study by Orel and Kara (2014), who observed that the quality of service in the supermarket self-checkout system positively effects customer satisfaction and loyalty. The analysis results also show that consumers' satisfaction with SST is significantly positively correlated with word-of-mouth recommendation and repurchase intention. Consumers with high satisfaction with SST are more willing to spread positive messages and revisit the service. This finding is consistent with previous research (Lin and Hsieh, 2006; Robertson

et al., 2016; Shahid Iqbal et al., 2018).

The results of the hierarchical regression analysis illustrate that perceived self-control has no moderating effect on the relationship between functional affordance and SST service quality and satisfaction with SST. However, perceived self-control has a moderating effect on the relationship between cognitive affordance and SST service quality and satisfaction with SST. The cognitive affordance of SST refers to the relationship among the accessibility of SST, the customers' use intent, and their ability. This relationship determines how easy it is for customers to complete the expected service and is positively related to SST's service quality and SST satisfaction. In an SST setting, the customer's capability becomes a critical factor in determining how easy to interact with SST. In general, heavy users of technology are more confident in the ability to use technology (Meuter et al., 2005). An individual's confidence in his or her ability to command technology to obtain the desired consequence is the perceived control over technology (Barua et al., 2018). Therefore, customers with rich experience in technology will have a higher degree of perceived control over technology, and they will find technology more straightforward to use than those with insufficient technology experience (Hackbarth, Grover, and Yi 2003). Although the design of SST's accessibility was the same for everyone in this study, experienced customers find it easier to access and require less effort to interact with SST. Therefore, customers with stronger perceived self-control will strengthen the influence of the cognitive affordance on SST service quality and satisfaction with SST.

### **Managerial Implications**

For enterprises implementing SST operation, it is crucial to understand how consumers evaluate the use of SST so that the company can improve service performance accordingly (Meuter et al., 2000). Based on these findings, this study makes several recommendations for SST system developers or companies planning to use SST to provide services.

First, although attracting consumers to start using SST is an essential first step, the final assessment of the success of introducing SST to provide services depends on whether consumers are willing to continue using it (Bhattacharjee, 2001). Enterprises can continue to generate profits only when consumers are willing to revisit the service or attract more customers to participate in consumption through word of mouth. Therefore, it is essential for companies to understand factors that influence existing customers' willingness to continue using SST (Robertson et al., 2016).

Second, the influence of factors evaluating SST at different phases in the SST adoption model may vary. Managers need to focus on different priorities in each stage. Implicit factors of SST interaction experience, such as enjoyment, can be successful in attracting consumers during the phase of evaluation and trial. However, if enterprises want to maintain long-term profitability, they must strengthen the explicit factors of the SST interaction experiences (such as functional and cognitive affordance) during the phase of repeated use and commitment.

Third, the interaction between SST and users is a dynamic link. The enterprise shall spend more efforts on this link when planning and designing SST implementation. The SST's design attributes can be designed to be dynamically adjusted under different situations. For example, the function menu may be dynamically presented to users during different business hours to improve ease of use and system performance.

Fourth, the scenarios of the rush hour may affect the user's evaluation of SST for the public SST. The interaction experiences of SST may be negatively affected under the pressure of the waiting line during rush hours, especially for those who are anxious about technology (Blut et al., 2016). The waiting pressure can be reduced by dispersing crowd through means such as adding SST machines, allowing the use of mobile phones to check out, or adding temporary personnel during rush hours to help customers to complete the check-out process more rapidly. The enterprise should invest resources in preventing the embarrassment of using public SST.

Fifth, Bitner et al. (2002) argued that the failure of technology and services is the main reason why customers stop using SST. In addition to focusing on the interaction experience of SST, enterprises must explore how to conduct service failure recovery in an SST interaction. Ha and Jang (2009) pointed out that enterprises can effectively solve the customer's loyalty problems caused by service failure if they can properly let customers feel distributive, procedural, and interactional justice after the service failure occurs. Among them, procedural justice had the strongest effect on service recovery satisfaction (Lii, Pant, and Lee, 2012). Therefore, enterprises should establish standard operating procedures quickly and properly solve the problem when a service failure occurs. Ensuring that customers feel that they have been treated fairly has a positive effect on subsequent positive word-of-mouth and repurchase intentions.

Finally, this study recommends that enterprises strengthen the customer's sense of control and provide more choices to enhance

the customer's perceived self-control over SST. Regarding the sense of control, one approach is to strengthen the power of predictability, which represents the extent to which the unexpected aspects of SST are reduced. Improving customers' understanding and ability to predict the service process and consequences of using SST will cause them to perceive more controllability (Lee and Allaway, 2002). Perceived control increases when users are more able to control their choices and predict the consequences of events (Zhu, Nakata, Sivakumar, and Grewal, 2007). For example, the official website may provide an instructional video on using SST, or the company may provide a step-by-step demonstration video of SST operation on site. These countermeasures may help to improve predictability and controllability by reducing the degree of unexpected aspects of SST, thus enhancing the perception of control, thereby increasing the customer's perceived self-control over SST. Regarding the provision of more choices, Zhu et al. (2013) pointed out that customers with less perceived control may view the technology as imposing more constraints rather than allowing more choices, so increasing the available options can improve their perceived control. Therefore, the enterprise can consider offering customers more check-out options, such as check-out in their room or using the mobile phone to check-out directly. In addition to pre-paid on the Internet, the customer may be provided with more payment options, such as credit card and mobile payment on site. Allowing customers to decide freely how to obtain services by themselves will help enhance customer perceived control (Hui and Bateson, 1991). Moreover, enterprises may consider hiring temporary service personnel at rush business hours. This countermeasure not only enhances sense of control by providing to help customers evaluate, adapt SST but also provide more service options to customer. Thus, although temporary service personnel will increase labor costs, it is worthy of further consideration by managers as a trade-off between cost and performance.

### **Limitations and Future Research Directions**

This study has certain limitations. While explaining these limitations, it also suggests future research directions. First, because the model of this study only surveyed participants in the environment of hotel operations, thus research results should be applied cautiously to other industries that use SST to provide services. Future research may consider additional support in the context of other service industries to increase the inference of the findings of this study.

Second, our sample consists mainly of travelers from Taiwan, China, and Hong Kong. Their responses may not be fully applicable to the entire population, especially regarding culturally relevant characteristics because cognitive, emotional, and behavioral responses may vary by culture (Cole, Bruschi, and Tamang, 2002). Enjoyment is considered to be more critical in individualistic cultures (Blut et al., 2016). Future research can explore the cognitive and behavioral responses of multinational consumers and further expand cross-cultural understanding of the use of SST.

Third, because of time and cost constraints, this study used cross-sectional data rather than longitudinal research. Future research may continuously collect longitudinal data through the company to understand the long-term influence of SST on corporate revenues and profits in a service environment without interpersonal interaction (Meuter et al., 2005). After collecting sufficient data, analysis can be further undertaken through the collaborative filtering method to predict potential consumers' preferences for the SST interaction experience as a reference for improving the system.

Finally, the research framework should be expanded to examine how SST interaction experiences affect brand-related outcomes such as brand identity, brand attitude, brand satisfaction, and brand loyalty.

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**APPENDIX 1: Measurements Items and References**

<b>Variable</b>	
<b>Measurement Items</b>	<b>Sources of reference</b>
<b>SST Service Quality (SSTSQ)</b>	
I believe the hotel's SST system offers excellent service.	Brady and Cronin Jr. (2001); Jeon and Jeong (2017); Wixom and Todd (2005)
The hotel's SST system provided the exact service quality I expected or desired.	
In terms of system quality, I would rate the hotel's SST system highly.	
<b>Satisfaction with SST(SSTSAT)</b>	
I feel satisfied with the quality offered by the operation interface of this hotel's SST system.	Yen (2005); Orel and Kara (2014); Wang, Cheng, and Huang (2013)
This hotel's SST system meets my expectations for self-service.	
I am satisfied with the services provided by the hotel's self-service system.	
<b>Functional Affordance (FA)</b>	
I can get my service done smoothly with the hotel's SST system.	Lin and Hsieh (2011); Davis (1989)
This SST system is useful for my check-in, check-out, and luggage storage.	
Using the hotel's SST system makes it easier to do my check-in, check-out, and luggage storage.	
<b>Cognitive Affordance (CA)</b>	
The hotel's SST system provides me with information about self-check-in, check-out, and luggage storage.	Grgecic et al. (2015); Lin and Hsieh (2011); Davis (1989)
It was easy for me to follow the operational flow to accomplish check-in, check-out, and luggage storage.	
Learning to operate the hotel's SST system was easy for me.	
<b>Electronic Word-Of-Mouth (eWOM)</b>	
I will recommend this hotel to my friends or others.	Liang and Zhang (2012); Robertson et al. (2016); Harrison-Walker (2001)
I will say positive things to others about this hotel when someone asks me about it.	
I am proud to tell others that I use this hotel's SST service.	
<b>Repurchase Intention (RI)</b>	
If I could plan the trip over again, I would make the same choice.	Cronin Jr., Brady, and Hult, 2000
When I need to arrange accommodation for a trip, I will actively seek out this hotel.	Shamdasani et al. (2008)
Assuming I have the opportunity to arrange another trip similar to this one, I intend to use this hotel again.	Robertson et al. (2016)
<b>Perceived Self-Control (PSC)</b>	
I have more control over my check-in, check-out, and luggage storage due to the hotel's SST system.	Ho and Ko (2008); Zhu et al. (2013); Lee et al. (2013)
While using the hotel's SST system, I felt in control.	
I feel free to use hotel's SST system.	

**APPENDIX 2: Measurement Model and Factor Loading**

Maximum Likelihood Estimates					
Constructs	Factor Loading	Measurement Error	SMC	CR	AVE
Functional Affordance (FA)				0.85	0.65
FA1	0.8	0.36	0.64		
FA2	0.77	0.41	0.59		
FA3	0.85	0.28	0.72		
Cognitive Affordance (CA)				0.84	0.63
CA1	0.79	0.38	0.62		
CA2	0.85	0.28	0.72		
CA3	0.74	0.45	0.55		
SST Service Quality (SSTSQ)				0.79	0.56
SSTSQ1	0.68	0.54	0.46		
SSTSQ2	0.73	0.47	0.53		
SSTSQ3	0.83	0.31	0.69		
Satisfaction with SST (SSTSAT)				0.86	0.67
SSTSAT1	0.72	0.48	0.52		
SSTSAT2	0.84	0.29	0.71		
SSTSAT3	0.88	0.23	0.77		
Electronic Word-Of-Mouth (eWOM)				0.81	0.59
eWOM1	0.83	0.31	0.69		
eWOM2	0.72	0.48	0.52		
eWOM3	0.76	0.42	0.58		
Repurchase Intention (RI)				0.96	0.9
RI1	0.93	0.14	0.86		
RI2	0.96	0.08	0.92		
RI3	0.95	0.1	0.9		

Notes: SMC:Square Multiple Correlation, CR:Composite Reliability, AVE: Average Variance Extracted

## ANALYSIS OF THE ICONS USED IN GRAPHICAL INTERFACE OF MOBILE APPLICATIONS

DOI: 10.17261/Pressacademia.2020.1194

JMML- V.7-ISS.1-2020(2)-p.18-27

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**Date Received:** December 22, 2019

**Date Accepted:** March 25, 2020

### To cite this document

Artuk, L., (2020). Analysis of the icons used in graphical interface of mobile applications. Journal of Management, Marketing and Logistics (JMML), V.7(1), p.18-27.

**Permament link to this document:** <http://doi.org/10.17261/Pressacademia.2020.1194>

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## ABSTRACT

**Purpose-** The purpose of this research is analyzing the effects of the icons that are used in the interfaces of mobile applications on the usage of these applications.

**Methodology-** The icons are analyzed according to their abstraction, color usage, resolution and their adaptation with each other and checked if they're affecting the understandability, readability, and globality of interface.

**Findings-** Icons used in applications, which are distributed within application markets such as Google Play Store, IOS App Store and Windows Phone Store, were examined.

**Conclusion-** It has been determined that the importance of using icons in mobile application interfaces design should be announced more clearly. It is considered that instructing students who study graphic design at universities away from the use of ready-made icons and towards icon design may contribute to efforts in this direction.

**Keywords:** Icon, mobile interface, mobile application, graphic design.

**JEL Codes:** L80, L86

## 1.INTRODUCTION

Development of mobile communication infrastructure, price reduction in mobile devices, expanding of the mobile applications and depending all of these factors usage of the design techniques that are being used for a long time in desktop computers in mobile devices in a same or transformed forms have made graphic design to gain a prevalent place in mobile world. Since mobile devices have fewer hardware qualifications than desktop computers, small screens due to their portability, inputs as touchpad keyboard instead of classical keyboards and outputs sharing an important portion of the screen, the graphic design process differs in mobile applications. The difference requires graphic designers, who have a crucial role in designing the interface of mobile applications, to use a different language along with different procedures and tools.

Mobile interfaces need usage of a global language due to the fast-worldwide expansion potential of mobile applications, along with its qualifications that are mentioned in the previous paragraph. This language makes the application can be understood by different people from different nations. Icons are one of the crucial components of this language. Icons that are formed through the procurement of the symbolization of instances like a command, message, routing, and warning, make the applications user-friendly, accessible, understandable and global.

The purpose of this research is the analysis of the effects of icons that are used in the interfaces of mobile applications on the usage of these applications.

Even though, the software developing manufacturers seem like they have enormous staffing and financial power, developing new mobile applications became considerably easy and fast. In many instances, these applications have proven themselves for bringing profits proportional to their success. Nowadays, interfaces are being designed for almost every device that has electronic control growingly. Spreading usage of mobile applications increases the number of rivals for designers and requires them to bring a more professional perspective to their works.

The most important factor that influences the success of mobile applications can be accepted as being independent of the language that makes them useful all over the world. Furthermore, in order the application to be used easily all over the world, icons can be seen as the biggest helper of the designers.

Previously used in the web design, also in mobile design for a long-time not so user-friendly designs were used. However, with the development of web technologies and web design, improvements like the quick start of websites with rich graphic content, design of the more understandable and readable graphic design with more talented and accessible tools have started to be seen on mobile design, too. With the improvement of mobile communication technologies mobile application development platforms have spread out and diversified and its supporting design tools have also become more talented. Along with these, the unfair rivalry due to design tools in mobile applications has disappeared and the talents of the designers became the only superiority criteria in the competition of mobile applications.

The designs of icons provide the universalization which are the most important criteria of the success of mobile applications, indirectly affects the application's success. This research can be considered as a directive work since it is one of the limited works that analyzes the effects of icons to the success of applications.

A mobile which means portable expresses that mobile devices are also small and portable. These devices are stated as touch-operated, have a small keyboard and provide the users the ability to carry the device wherever they go. Even though various mobile devices have similar qualities, there are differences between every device due to their operating systems (Bilgili, 2014: 7). Communication is formed through technologies that are used in mobile devices like Wi-Fi, Bluetooth, and GPS. Hardware like cameras, microphone and sensors are used to get in touch with the external world and power supply is usually provided through lithium batteries (Bilgili, 2014: 7). The portable devices that are suitable for personal use, provide technologies that facilitate communications like GSM, GPRS, Wi-Fi, and 3G, has small device size, battery size and battery capacity are named as a mobile device (Mihci, 2014: 12). Mobile devices gather features like audio recording, web browsing, photography, music, video, and messages in a pocket or portable devices, compared to the computers. Even though these devices provide these features that computers have, with small hardware it is not expected from them to carry out these actions as fast and clear as personal computers. (Namli, 2010: 6).

The field of human-computer interaction has an interdisciplinary structure. Computer science, psychology and cognitive science form the foundation of this field (Dix, Finlay, Abowd and Beale, 2004). When IBE was a sub-branch of cognitive science in the 1970s, its purpose was to exercise cognitive science methods in software development (Caroll, 2003). It was assumed that general perception, motor skills, problem-solving, language and communication rules can conduct the design of technology products. Cognitive psychology themes such as human perception, information processing, memory as well as people's abilities and boundaries are very important subjects for designers working in the field of IBE.

Users utilise new generation mobile communication devices (smartphone-tablet) by tapping on their heat-dependent touchscreens. This requires the user to give direct commands to the interface and interact with it. In addition, major questions emerge concerning how the interface designs of these devices affect the performance and to what extent they facilitate visual communication. For these reasons, it is intended to examine the interface designs in terms of basic graphic design principles (balance, proportion, verbal-visual hierarchy, visual continuity, integrity and emphasis) and provide a comprehensive analysis of interfaces' impacts on usability by making use of the inquiry-based methods in evaluating usability. Designing the interface by following basic graphic design principles ensures the success and usability of the developed design. Since the user is in direct contact and interaction with the interface, it can be stated that the interface design directly influences the usability of the mobile operating system. For this reason, our study was evaluated by examining the icons within the graphic interfaces of mobile applications.

## **2. LITERATURE REVIEW**

The mobile applications generally used in tablet computers and smartphones, answers many needs of daily life. The development of mobile applications that has a big importance for saving time in the developing and unlimited world of the Internet, has accelerated along with the development of tablet computer and smartphones. Usually used in communication, banking, media, and entertainment, these mobile applications provide people to deal with their transactions in these areas independent from their computers. (Beyaznar, 2014: 33). Due to the easily reached nature of the Internet and the development of Internet-based technologies, almost all services are easy to reach. With the spread of mobile applications, the internet, which provides services like shopping, entertainment, and education, became even more useful. Mobile applications that provide fast and easy usage of Internet services, can be used in different devices according to its operating system. Widely spread IOS id used in Apple devices, Microsoft Phone (Mobile) is used in some models of Nokia, Android is used in the for most of the mobile devices that are left outside of these (Bilgili, 2014: 10). The applications that are designed for mobile devices are called mobile applications. These types of applications are software, and even though their development process and design structure are similar to computer software, they differ from them because of their development place and usage of hardware and (Namlı, 2010: 3). In the present day, along with the expansion of the smartphone and tablet market, the number of mobile applications has become 1,2 billion. According to ABI research reports, 56 billion applications for smartphones and 15 billion applications for tablets are uploaded to the internet in 2013. %58 of smartphone applications are using Android, %33 of them are using IOS and %4 of them are using Windows. In tablets, %75 of the applications are using IOS and %21 of them are using Android. Before 2017, the expected number of mobile applications will become more than 200 billion (Aslan veYavuzer Aslan, 2013: 83).

Before then, there were regular phones used for only making calls however nowadays they left their place to the smartphones that have improved operating systems and applications. Smartphones are the devices that use cellular communications for connecting to the internet besides Wi-Fi (Bilgili, 2014: 7-8).

Tablets are designed for application usage instead of communication in terms of functionality. Even though there are some models lets telephone calls, they are not usually preferred for this type of communication due to its weight and other qualifications that are not ergonomic. Usually, it is preferred since it provides a widescreen and more comfortable keyboard usage for applications that are hard to use on a telephone screen.

Products like smartwatches, fitness bands and Google Glass are the milestones of wearable technology. The most used voice command system in wearable technologic devices is the artificial intelligence assistants named Siri and Google Now. The device that is shaped as Bluetooth earphones and communicates through Google Glass and Apple iWatch undertakes the assistant role, answers the commands and informs people about timely information. These kinds of devices also can answer all the questions that are asked such as the birthdays or addresses of people's friends. These lightweight and small wearable devices can be used in anywhere easily (CIO,2015).

The mobile interface is the text and graphical elements and their design that provides users to control the opportunities of the application. These interfaces that detect user-friendliness also indirectly affect the commercial success of the devices where they are used in. User-friendliness one of the criteria that determines the buying preferences of the customers and it is one of the implications of this situation.

Interfaces are the designs that provide communication between user and software or application. They are designed as text commands during the times when graphic screens are not fast and powerful enough. With the improvement of graphic technologies, interfaces are started to be equipped with graphic elements and became easy to use. The interfaces that are equipped with graphic elements are named as "graphical interface" or "graphical user interface".

Graphical interfaces are the interfaces that are designed by using texts along with visuals and pictograms for users to use devices like computers, mobile devices, ATMs, photograph machines, media players, satellite television systems more easily. These interfaces direct the experience of the users and make them focus on the targeted point. Messages, warnings, redirections, and statements are reached to customers according to the purpose of used design. Users need a graphical interface to see the resources provided by the device regularly.

Graphic design has three main tasks: informing, persuading and giving identity (Düz, 2001: 1). In the design of the mobile interface, these are determinants for main subjects that designers should consider. The criteria for successful graphical interface design are directly related to the success in performing these three tasks and this should be taken as the main goal in interface design where



interface functions are carried out properly. The studies in interface designs imply that in order these functions to be performed, the simplicity of the design, usability, understandability, and accessibility should be taken seriously.

The development of graphic design causes various researches about user experiences. Since interfaces that are users directly interact with, were started being developed with processes where users were involved, "user-centered design" policy was born, and usability of interfaces was emphasized more and more eventually. To understand usability, an inspection of the principles of user-centered design would be useful. According to the accepted description, a user-centered design process means that the design practices conducted in light of the information taken from user experiences (Gürses, 2006: 12-13).

The distinguishing feature of the main interface parts is that being directly the elements of interface monitor. The interfaces that are used in mobile devices are usually text fields, buttons, and menus. Almost in every graphical interface, the main mission facilitates to reach documents and programs through icons. In these types of operations, even though the frequency of use of icons is high, the low number of scientific researches is surprising (Bryne, 1993: 446).

Icons which are important tools in graphic design are used in different instances other than electronic settings. They are widely used in various places such as traffic signs, guidance signs, product labels. Since they are designed as recognizable by anyone easily, it can be easily understood that language barriers are removed and with that icons became a universal language (McDougall &Reppa, 2008: 1257).

Signs are grouped into three groups as icons, indexes, and symbols. Icons have the simplest and most basic outlook compared to the other two. An icon carries the form of the represented object; thus it resembles this object stylistically. While the abstract of the indexes and symbols are developed with an interpretive approach according to the meaning of the represented object, abstract of icons happens stylistically. An object is still recognizable in terms of figure, even it is abstracted as an icon (Buchler, 1991: 102).

In electronic settings, icons have gained a different dimension and their spread has accelerated with the usage of graphic design. It is not wrong to say that usage of icons, which are one of the crucial parts of mobile applications, in electronic settings has started with the Internet.

Due to their important functions like instruction, information, and warning, icons are placed in the communication channel conducted with eyesight. Because of this feature, icons are used instead of texts where efficient communication is needed with users and help to save communication time (İnançUyan, 2009: 195).

Icons, which consist of a crucial feature of the graphic design, should have some qualifications in order design to reach its goals. Foremost among these, the requirement of compatibility between the visual features of icons with their functions (İnanç Uyar, 2009: 195). Along with these, icons must have three main qualities which are generality, abstractness, and style. Pictograms and symbols also must have these three qualities. (Fonseca, 2001: 76-87).

User interfaces play a crucial role in human-computer interaction. The user interface design of a system or program is vital to the flow and usability of the system. Mobile devices and technologies are one of the most substantial examples of human-computer interaction. Mobile applications are programs with user interfaces built within the structure of certain criteria. The aim of the study is to test two different mobile applications with the same procedures by users in line with defined principles and provide the opportunity to access the correct information about the two application's user interfaces (Akyol, 2014).

Although mobile devices have become an essential part of daily life, standards for mobile user interface (UI) design models have not yet been fully ascertained. Most of the mobile website interface designs are based on the website models developed for the desktop. However, these interfaces are not fully compatible with mobile screens and prompt some difficulties for users. By providing an overview of current studies on mobile website design patterns, solutions for the most popular design and usability problems on mobile compatible websites have been investigated in this study (Dinç, 2018).

### 3. APPLICATIONS

Icons of the applications that are distributed in Google Play Store, IOS App Store and Windows Phone Store will be analyzed. In order to analyze these icons, the applications are first downloaded then the features on these applications have been reviewed and interpreted. Below, Facebook, Alim Advanced Account System, IBB Cep Traffic among these applications are examined with visuals along with databases and comparisons are made. The good and bad features of these applications have been shown.

#### 3.1. Facebook

The mobile application of Facebook, the most widespread application of the world, is one of the heaviest and most active users of the icons. The main screen Facebook's mobile application is formed of 4 parts. First of them is the banner bar that has a username, second is notification bar, third is the timeline and fourth is sharing bar.

Figure1:Sample of Facebook Interface



There are two icons in the banner bar, the first of them operates the search process which is heavily used on Facebook. The search icon is shown as a magnifying glass that is identified with search operation and also used by Microsoft's Windows and Apple's MacOS for many years. Facebook has four main search operation which is for people, pages, groups, and events. The simplicity of the magnifying glass symbol in the search icon is caused by being able to do all of the search operations when clicked the icon. When inspected according to the functions of graphical icons; the search icon can be considered universal since it has light colors in the dark base. The second icon on the banner bar opens the messaging menu, one of Facebook's most used functions. The symbol is formed from lines body and head symbol and lines that resemble menu rows. Messaging menu icon is designed with the same colors as the others which makes them be in unity with the other elements of the banner bar. The icon that has the function of choosing the person to message before reaching the messaging screen, expressed from a human symbol and successive lines listed horizontally. Even though the simplicity of the sign and color-based relation strengthen the readability, the horizontal lines can be confused with drop-down menus. However, for the users of Facebook, this confusion is not at a disturbing level since the usage of messaging applications is high. There are 5 icons on the notification bar of the interface which are Timeline, friend requests, inbox, notifications and profile page, respectively. The icons besides profile page numbers that represent notification counts can be seen. When there is no notification, these numbers are not visible. Users can check the details of the notification by clicking the icon when there is a number. Icons are designed with a light color on a light base; however, this is not a problem since it should be clicked when there is a notification. When icons are chosen its color darkens, so users can understand which page they are currently on. Timeline is the screen where contents that are followed by users are shown. The content on this screen is shown in a window where the profile picture and name of the sharing person are placed in the upper left side. Timeline icon on notification bar is formed as a box similar to the window it was published that has a frame on the upper-left side and lines next to this frame. Considering the small screens of mobile devices, this icon is insufficient in a symbolic sense. It may be remembered easily because of the usage habits of the Facebook users. However, this situation does not eliminate the need for better icons representing the timeline. Friend requests icon is formed by putting a two-person symbol next to each other. If it is looked out closely, it is easily noticeable that one of them is male and the other is female. With its symbol, the icon emphasizes

the universality more clearly and at the same time associates the friendship concept in a strong way. It is also sufficient in terms of readability and understandability. The inbox icon is designed as a speech bubble in a simple way. The usage of a speech bubble in other desktop applications as a messaging symbol increases the understandability of the icon.

The notification icon is designed as a world symbol. This symbol is considered as meaningful when it is thought that it symbolizes the page where all of the notifications from friends all over the world listed in. However, since the notifications belong to the text, image and video content, there is a need for a more understandable symbol semantically. The profile icon is formed from three lines one under the other and it resembles a menu. The icon that opens the page where frequently used operations, pages that are operated by users and applications listed, is not related to the content in terms of meaning however it reflects the list form of the page. Even though the symbols in the notification bar does not have successful designs since Facebook has an enormous user database all over the world the icons, they designed are quickly become relevant among users and even serve as a model for the other applications. There is an icon on the upper right side of the Timeline that resembles “v” or point of an arrow. This icon opens a menu that lists some functions like hiding the post, unfollow the sharing user about the post in the window. The simplicity and understandability of this icon are up to the user experience. On the bottom of the window, there are like, comment and share buttons. The icon on the like button is designed with a hand where the thumb is on air that means acceptance. This symbol, which is identified with Facebook in many places, is used for liking the post and informing the other users about it. There is a speech bubble on the comment button and an arrow that is turning right on the share button. Since the speech bubble is supported by text, there is a low possibility that confusing this icon with the messaging icon. The arrow symbol on the share button is previously used to symbolize the forward command in many e-mail services, which is considered as a suitable choice for understandability in a button that forwards other Facebook users. The sharing bar has three buttons that have icons supported by big texts. First of them is the share button that has an icon designed as a pencil symbol. The icon opens a box where users can share text, image or video about any topic. Since pencil symbol is used in many applications to open a blank page or edit the existing content, the understandability of the icon is high for the users. The second button in the sharing bar is an image sharing button that has an icon shaped like a photography machine. It quickly opens a window where users can easily share the images. The universally known photography machine shaped icon is also supported with text. The third button in the bar is the location button where users share their location. There is an icon in this button which is known by navigation devices and it is supported with text.

The common characteristics of icons that are inspected can be summed up like this. Simplicity: There are very few illustration elements in the design of the icons. Readability: All icons are universally known symbols. Understandability: Even though some symbols may be confused with others used in some icons, these icons are considered exceptions and recognizable due to Facebook’s worldwide popularity. Consistency: All of the icons are designed in the tones of blue which is the color of Facebook’s theme so there is a color uniformity among them. Even though there are different design templates used in selection groups like the status bar or title bar, in terms of abstraction level and color all of the icons seem compatible with each other. The same icons are used in different versions of Facebook in different operating systems. According to the screen size or choice of the user the number of the icons in the toolbar changes. Along with that notification bar in IOS positioned on the bottom and in Android and Windows Phone on the top. These are some of the few differences between the appearance of the application in different operating systems. Besides these, according to the user choice, the icon of the chat module Messenger can replace the notification icon of the messaging.

### **3.2. Âlim Advanced Accounting System**

Âlim Advanced Accounting System is a free application which is an example of the mobile version of pre-accountancy software. It can perform pre-accountancy functions and debit/credit tracking while aiming for competitive advantage with its information security function. Application interface welcomes the users with a menu with 9 choice options with icons. One of these icons is the excavation work symbol that means “under construction”. This symbol shows that the related menu option is still being prepared. The other icons are about the functions of the application. The icon is formed with three different person symbols that have different colors. The fact that the faces in the icon do not have organs like ear, nose, and eye strengthens the abstraction and as a different fact, there is more than one person on the icon which emphasizes the implication of the listing function more. The colors that are used in the icon are far away from assuring the users which are expected from these types of accountancy applications. Along with that, usage of three different colors reminds the function of the icon which shows different types of checking account together. Icon is designed as electric plug. In the icon’s design which based on the blue color grey and yellow was also used. The simplicity isn’t lost even though the shadowing technique is used in the design. Symbolization of electric plug seems enough in terms of understandability due to its easily recognizable shape, however, irrelevance between the icon and its

function reduces this understandability. The icon has the function of connecting and interacting with the mobile device and computer that the application is on. Usually symbolized radio waves are used in the icons that have this type of function and when the fact that the mobile devices are wireless is considered, choosing the icon as an electric plug that has a wire seems like an erroneous decision. Coin symbols and VISA and MASTERCARD logos were used in the "Cash/Credit Card" button that lists the user's credit card and cash assets. The icon design is consistent with the function of the button however in terms of abstraction it is not sufficient. Usage of green, blue, yellow, red and grey colors in the same percentage in the design and existence of many symbols reduces the understandability of the icon. "Bank Accounts" button that lists the bank accounts of the user registered in the app has a symbol of the business center. The way that symbol is designed with a grey color which evokes seriousness, formality, and diplomacy, makes people think that icon is about the official and legal processes about banks. However, considering the colors of other symbols in the interface and their functions, using more abstract symbols for listing the bank accounts would be more suitable. An icon designed with a dollar sign and a car that has vivid colors is used in the "Assets" button that lists the user's vehicles, immovables, and bonds. The way that the car symbol has shadow and reflection details makes the icon insufficient in terms of abstraction. Furthermore, the color transition between green and white in the dollar sign reduces abstraction. "Reports" button that shows the situation of the assets, accounts, general debits/credits, and vaults as a text has an icon of a white paper symbol with lines. Since the icon has the functions of reporting and e-mailing the text-only report, it is not sufficient in terms of understandability. Compared to the other icons, the resolution of the icon in the "Reports" button is low which creates a mismatch between the icons. "Tools" button that opens the menu where users can update the forex rates and make a report about the system info of the mobile device has an icon consisted of a screwdriver and key symbols that are frequently used in buttons that have these type of functions and has an optimal understandability level. However, the way that the button named "Tools" is inconsistent with its functions. Despite this situation, the icon is successful in terms of abstraction because it has been designed with the symbols that are known universally and without redundant details. "Settings" button that opens the menu which has functions like user definition, backup, defining of the currency used, initialization of the data has an icon consisted of three raddled gearwheels. The understandability of the icon is high due to the simple design of the gearwheels. Since the symbols have grey tones and consistent with the function of the icon the readability is also high. When the icons used in the interface of Âlim Advanced Accounting System are analyzed, the following issues have arisen. The resolution of the Reports button is lower than the others. There is no consistency in the usage of colors, vivid colors are used in only some icons. Even though icons have the same sizes, the sizes of their buttons are different. When the understandability of icons is evaluated, it can be seen that the tags on the button have supported understandability significantly and without them, it is hard to understand the functions of most of the icons.

Figure2: Sample of Alim Accounting System Interface



When the icons of the app are evaluated these facts would show up: Simplicity: It can be seen that there is no emphasis on the simplicity and abstraction of the icons. Since various colors and symbols are used, they give a complicated image. Readability: Generally, icons are at a sufficient level in terms of readability due to their resolutions and sizes. Understandability: The icons

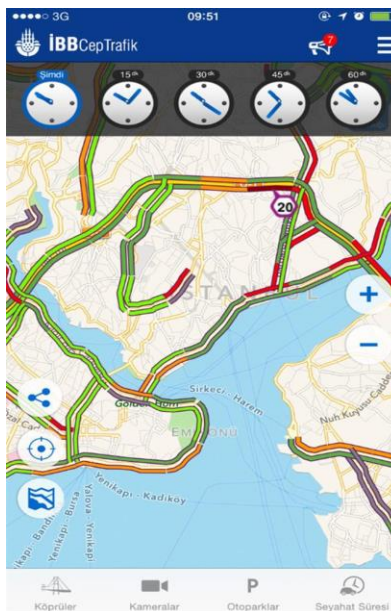
were designed with symbols that fit their functions; therefore, understandability is sufficient. However, some misleading symbols have also been used. Consistency: In terms of resolution, color usage, abstraction level and variability of symbols, there is no consistency in interface icons. However, the sizing of the symbols is one of the rare elements that are consistent. Since there is no version of the app in different operating systems than the Android version, the comparison between different versions wasn't conducted.

### **3.3. IBB Cep Trafik**

IBB Cep Trafik which is provided by Istanbul Metropolitan Municipality aims to give instant citywide traffic information. It also provides up-to-date traffic camera recordings, locations of the parking lots, the journey time between different locations. The interface screen of the IBB Cep Trafik welcomes users with a map showing the current traffic conditions. The interface screen consists of the title bar on the top, map on the middle and status bar on the bottom. Status bar and title bar can be hidden if wanted, so there would be more space for the map. Logo of the Istanbul Metropolitan Municipality and name of the application are located left of the title bar, while the menu and announcements are on the right. The announcements button has an icon designed as a megaphone. This icon seems suitable since it opens the announcements, however because of the chronic traffic problem of Istanbul makes announcements and due to that the red area on the megaphone permanent and requires the usage of another suitable icon in terms of understandability. The menu button on the title page has an icon consisted of three horizontal lines. It opens the menu where functions like notifications, weather forecasts, and video call for the people with impaired hearing listed, and due to this characteristic of the button, the abstraction can be considered successful. Menu icon and all elements of the title bar is designed with light colors on the dark base which keeps the readability at a high level. On the map area of the IBB Cep Trafik, there are 6 icons in a floating position. One of them is for information purposes while others are functional. Traffic Intensity icon gives the traffic flow situation in terms of percentage. This icon indicates the traffic density with text which is supported with a doughnut chart at the same time. The icon is placed on a base with a blue color which is frequently used in the design projects of the Istanbul Metropolitan Municipality. Since the numbers that indicate the traffic density is written with a font that has high readability with enough size, the readability of the icon seems sufficient. The gradient effect from green to red based on the density level is used on the doughnut chart. The way that green, which is the color of trust, is used when traffic density is low and red, which is the color of excitement, is used when the traffic density is high, increases the understandability of the icon. Zooming icons placed in the middle of the application interface is designed as semitransparent buttons that has plus and minus signs. Both icons are designed with a simple blue color on a white base and they have the same size, transparency, allocation and color values. Since most of the navigation and map applications have the same signs, the readability of these icons is strong. The share button of the application has an icon that has been used in other applications as a sharing button for a long time. This icon has been designed similar to the other buttons on the map as blue color in the semitransparent base. Since the size, color and allocation of the icon are the same as the other icons, there is harmony between the icons among the map. The location icon is similar to the other icons that are used in the other map applications with a function of locating the mobile device with the help of GPS and focusing the map to this location. Since these similarities ease the readability for the users, the location icon of the IBB Cep Trafik can be also considered as readable. Satellite/Map Appearance icon has the function of changing the appearance of the map. Due to the detailed drawing, understandability has been reduced in this icon. The icon has the abstraction of a half-opened folded map, due to the thickness of lines it is weak in terms of readability. There are four buttons on the status bar of IBB Cep Trafik. First of them opens the window that shows information about the intensity of bridge traffic which is one of the most intensive points in Istanbul. The icon has been designed as a draw bridge that resembles Boğaziçi Bridge in black color and has a high understandability. The second button of the status bar, "Cameras" enables switching to the page that shows images from traffic cameras placed in Istanbul. Icon of this button is a camera symbol that is abstracted and easily understandable. The third button "Carparks" shows the symbols that represent carparks all over the map. The icon on this button is symbolized with a universal parking symbol, the letter "P". The fourth button of the status bar "Journey Time", makes pre-located symbols visible and gives the estimated current journey time between two of them selected according to the traffic intensity. The icon that is designed according to its function, with the usage of car and clock symbols together. Since the car does not have any details besides its wheels and the clock is big enough to fill the icon area, the readability of the icon is strong. Bridges and journey time buttons on the status bar are not sufficient in terms of abstraction. Compared to the others, cameras and carparks icons have the most frequently used symbols so their abstractness is far from creativity but can be considered successful. When evaluated, the icons in IBB Cep Trafik are separated into three regions and in each region, icons are consistent with each other. The icons on the map are translucent to keep the visibility of the map, however, this situation does not have any negative effect on the readability of the buttons. The resolution of the buttons is high, and their color is blue which is frequently used in the designs of governmental

agencies. When the icons of the app are evaluated these facts would show up: Simplicity: The simplicity is generally sufficient due to the level of the abstraction, however in some icons, complicated symbols are used as a contradiction. Readability: Icons have sufficient readability levels since icons are widely known and their resolution levels are high enough. Understandability: Despite the fact that the icons were understandable parallel to their readability, understandability is weak in some icons which do not have unknown symbols. Consistency: When the interface is inspected as segmented, in each segment icons are compatible with each other according to especially their colors, abstraction levels, and sizes. However, considering the interface as a whole, there is an evident inconsistency between the icons. The way the icons in the map area are designed differently than the icons in the status bar can be considered as an example of the source of this inconsistency. When different versions of IBB Cep Trafik in different operating systems, IOS and Android apps resemble each other significantly. In these two operating systems, the same icons were used, and they are the same in terms of position, size, resolution, color, sorting, and functions. In contrast to that, there are big differences in the icons of the Windows Phone app. Even though, associations of icons are similar they are completely different in terms of graphic elements such as color, size, framing, and transparency. The difference in the Windows Phone app can be attached to the fact that its late release. The fact that application development environments for IOS and Android take time for supporting Windows Phone, makes Windows Phone app different than the others.

**Figure 3: Sample of IBB Mobile Phone Traffic Interface**



#### 4.CONCLUSION

In this research, the icons that are in the graphical interface of the currently used and randomly selected mobile applications are inspected. The results of this inspection can be listed as below:

The qualifications of the icons used in the graphical interface of mobile applications indirectly affect the success of the application.

In the applications that are inspected including widely popular ones worldwide, the icons that are weak in terms of understandability are used. In widely popular applications these kinds of icons are started being no longer a major problem, furthermore, they are being recognized with their function in these applications.

In the applications that are not mainstream, new design attempts haven't been observed and the icons that are known with their functions and used previously in other apps unimaginatively, so they have reduced the risk of eliminating the readability and

understandability of the application. In most of the applications, icons like the menu, calling, people list, and settings are the same as each other, so these icons became universal.

Due to the development level of hardware in mobile devices, there were not any resolution problems in icons, only a few were observed as in the form of design faults.

In the applications designed by professional companies, the color usage was taken place according to the corporate identity design rules where in the other applications the icons that have colors dissonant with the functions of the apps were designed. As a result of the research, icons used in today's mobile applications affect readability, understandability and as a result of the universality of the applications. Abstraction, color usage and compatibility with each other of the icons used in the interfaces of the mobile applications affect the understandability, readability, and universality of the app positively.

Considering the results, the need for announcing the importance of icon usage in the design of mobile application interfaces has emerged. Directing the graphic design students to design new icons from using icons on hand, may contribute to the efforts in this case.

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## TRUST GOES THE OTHER WAY TOO: SELLERS' TRUST IN BUYERS AND ITS INFLUENCE ON SALE PROCESS EFFICIENCY

DOI: 10.17261/Pressacademia.2020.1195

JMML- V.7-ISS.1-2020(3)-p.28-41

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**Date Received:** December 10, 2019

**Date Accepted:** March 16, 2020

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### To cite this document

Peneklioglu, O., Elmadag, A.B., (2020). Trust goes the other way too: sellers' trust in buyers and its influence on sale process efficiency. Journal of Management, Marketing and Logistics (JMML), V.7(1), p.28-41.

**Permament link to this document:** <http://doi.org/10.17261/Pressacademia.2020.1195>

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### ABSTRACT

**Purpose-** This research aims to discover the effect of interpersonal factors on seller's trust to buyer and in turn to the sales process effectiveness. Sales specific factors such as time risk and purchase importance are also considered when determining the effects of interpersonal factors.

**Methodology-** A quantitative research method involving salespeople is employed.

**Findings-** The findings indicate the presence of a positive relationship between interpersonal factors (similarity, expertise task orientation) and trust to buyer and sales process effectiveness. The sales specific factors (time risk and purchase importance) also have a moderation effect to the relationship between trust and sales process effectiveness.

**Conclusion-** Through the sellers' perspective, this study investigated the antecedents and consequences of trust in a business-to-business sale relationship. Recommendations to both sales team managers and procurement team managers to increase the sales process effectiveness under specific situations is provided based on study findings.

**Keywords:** Sale process efficiency, trust, similarity, buyer-seller business relationships.

**JEL Codes:** M30, M31, M39

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### 1. INTRODUCTION

Business-to-Business (B2B) buying behavior had initially been accepted as the rational behavior, which is complex, systematic and unbiased by an individual or irrational criterion (Webster and Wind, 1972; Sheth, 1973). Moreover, buyers' trust in sellers has been accepted as one of the key influencers on B2B buying decision outcomes (Doney and Cannon, 1997; Johnson and Grayson, 2005; Friend, Hamwi, and Rutherford, 2011). However, more recent research has shown that trust can be influenced by personal factors and perceptions (Yang, Kim, and McFarland, 2011; Chakrabarty, Brown, and Widing II, 2013; Bateman and Valentine, 2015; Newell et al., 2016; Kalra et al., 2017) and that buyers' trust may not be the only trust that influences the relationship (Chakrabarty et al., 2013).

A broad body of research about perceived trust, from the buyer's perspective, shows that trust positively influences performance and other related outcomes (such as satisfaction, conflict resolution, communication quality, conflict resolution, and cooperation) (Graca, Barry, and Doney, 2015). Research has repeatedly confirmed that buyers' trust in sellers has a positive impact on knowledge sharing and complementary capabilities (Rungsithong, Meyer, and Roath, 2017; Swan et al 1988) as well as on buyers' satisfaction and intention to maintain/extend the relationship (Vázquez-Casielles, Iglesias, and Varela-Neira, 2017). As recently indicated by Bolander and Richards (2018, p.169), the selling and sales management research, conducted over five decades, has



a focus on “customer-related (in a business situation buyer-related) research questions”. Thus, previous literature emphasizes the influences of buyers’ perceptions of sellers in B2B sales situations. However, as in all reciprocal relationships, sellers’ trust in the buyer in B2B situations, although neglected by current research, may have a bearing on the sale process, specifically its efficiency. As suggested by Plouffe (2018, p. 241) “despite much practical and empirical attention over five-plus decades, our understanding of the sales role remains limited. .... While the sales role has been studied for more than half a century, much of what drives performance is still unknown”. Therefore, it can be argued that the sellers’ trust in the buyer in the sales process may be another driver for the sale performance.

The purpose of this study is to determine the influence of sellers’ trust in buyers on the efficiency of a sale process. Often, if not always, the buyer’s trust has been the focus of researchers in the B2B marketing literature when examining sales performance, even when data collected was based on the seller’s perceptions of buyers’ trust. In this research, we adopt the sellers’ perspective to discover the sellers’ trust in buyers and its’ influence on sales performance. Sale process efficiency is one way of measuring sales performance, which is the ability of a salesperson to win the opportunity in the right timeframe (Rodriguez and Honeycutt, 2011). When firms increase the efficiency of their sales processes (or can be named as procurement process efficiency from the buying company’s perspective), they reduce order cycle times thus reduce their cost, utilize their human resources more efficiently, and also may gain a competitive advantage against their competitors due to earlier introduction of new offerings to the market place and/or having higher growth than competitors. Based on the results of a survey among 1300 companies worldwide, Dickie (2004) pointed out, the sales efficiency ranked as the second priority for the companies when increasing their sales performance.

This study adopts Similarity-Attraction Theory (Byrne, 1971) and the concept of relational demography (Tsui and O’Reilly, 1989) perspectives to better explain the effects of individual buyer-seller relationships and their outcomes in B2B sales situations. In an attempt to have a deeper understanding of the individual factors affecting sale process efficiency we used seller’s perceptions of buyer similarity, expertise, and task orientation as antecedents of seller’s trust in the buyer and, in turn, sale process efficiency. Moreover, purchase importance is also considered as a sale specific factor when determining the effects of intrapersonal factors on trust and sale process efficiency.

In this article first, the literature review on the concept, modalities, and effects of sellers’ trust in buyers is presented and conceptual background for sale process efficiency is laid out. Utilizing the data from 235 B2B sales professionals from various industries hypotheses are tested and finally, the results are discussed as well as the theoretical/ managerial implications and limitations of the study and recommendations for further research are presented.

## 2. LITERATURE REVIEW

The concept of trust has attracted great interest from researchers for decades. Introduced as an essential success factor in business relationships (Parasuraman et al. 1985), trust is described as being “central to successful relationship marketing” (Morgan and Hunt, 1994, p. 22). In these seminal studies about trust, authors have emphasized that both buyers and sellers need to trust each other to feel secure and comfortable during the selling-buying processes. However, when the B2B literature is scrutinized the majority of studies focus on buyers’ trust yet ignore sellers’.

Few dyadic articles in the literature study trust from both sellers’ and buyers’ perspectives. However, the performance outcome investigated in those studies is relational and not specific to a sale (i.e. Lai et al, 2009; Nyaga, Whipple and Lynch, 2010). Chakrabarty et al (2013) surveyed a random sample of B2B salespeople to examine the effects of salesperson selling behaviors on salesperson’s trust in the buyer and salesperson performance. In another study by Blonska et al. (2013) suppliers of one single firm were surveyed and the influence of relational capital (including trust) on buyer and supplier benefits was examined. These limited studies conclude that further research is needed to investigate the effects of the seller’s trust on performance using sale process efficiency (Chakrabarty et al., 2013). Thus, in the next section literature on trust in B2B sales relationships and factors affecting sellers’ trust in buyers will be laid out.

### 2.1. Trust in B-to-B Sales Relationships

Trust in the B2B context, as defined by Anderson and Narus (1990), is one partner’s confidence that the other partner will perform actions that will result in positive outcomes for the firm and will not take unexpected actions that may produce negative outcomes. In the same way, Crosby et al. (1990) mentioned that “trust in relational sales contexts can be defined as a confident belief that the salesperson can be relied upon to behave in such a manner that the long-term interest of the customer will be served” and

Moorman et al. (1992) defined trust as “a willingness to rely on an exchange partner in whom one has confidence”. Although Crosby et al. (1992) only mention trust in the salesperson, later definitions show that trust is available “when one party has confidence in an exchange partner’s reliability and integrity” (Morgan and Hunt, 1994) showing that trust is a two-way street.

The concept of trust in the B2B context has developed in different ways since the mid-1980s (Parasuraman et al., 1985; Swan, 1985) and has been attracting the continuing interest of academia (Massey et al., 2019). Trust is a cornerstone in the progression of the relationship between buyer and seller (Morgan and Hunt, 1994), and a key influencer of the efficiency of relationships (Johnson and Grayson, 2005). However, in many trust centric relationship studies, trust is used as a single-sided construct: buyers’ trust in sellers (Akrout and Akrout, 2011). Any sale process, nevertheless, includes a certain degree of uncertainty both for buyers and sellers, which can be reduced by building trust (Gao, Sirgy and Bird, 2005). Thus, as much as buyers’ trust in sellers influences sale processes, sellers’ trust may also have a bearing on the sale process efficiency.

In B2B literature, researchers have utilized interpersonal (relational) factors (i.e. Swan et al, 1988), sale specific factors such as purchase importance (i.e. Doney and Cannon, 1997; Belonax et al, 2007) and seller specific factors such as ability and expertise (i.e. Swan and Nolan, 1985) as predictors of trust when buyers’ trust in salespeople are concerned. Dampérat and Jolibert (2009) showed that individual factors such as relational orientation and expertise influence the relationship between buyers and sellers in the business settings because a relational approach can generate greater trust in salespeople (Bateman and Valentine, 2015) that reduces buyers’ perceptions of available alternative suppliers (Friend, Hamwi and Rutherford, 2011). When sellers are concerned, based on the relational demography perspective and Similarity Attraction Theory (Byrne, 1971), one important factor that may facilitate the trust in the buyer is the relational proximity to the buyer, which may be operationalized as the perceived similarity.

## **2.2. Similarity**

Similarity-Attraction Theory (Byrne, 1971) suggests that people like others who they think are similar, rather than dissimilar, to themselves, and similarity significantly attenuates interpersonal attraction, social incorporation, and likeability (Baron and Pfeffer, 1994). As expressed by Smith (1998), similarity is the extent to which similar personal attributes or characteristics in a dyadic relation between at least two people in a social group are shared. Moreover, shared common interests and values also increase perceptions of similarity (Doney and Cannon, 1997).

B2B literature affirms the existence of the relation between trust and similarity. For example, Doney and Cannon (1997) showed that buyers increase their trust in and satisfaction with sellers, who are similar to themselves; because they believe that sellers share akin values and have similar interests. Hikkerovaa (2011) found evidence that for a buyer shared values are positively linked to trust. Lichtenthal and Tellefsen (2001) propose that buyer-seller similarity can enhance the sales efficiency as a result of the increased attraction between the buyer and the salesperson, which might be a result of the increased capability in perceiving the trust-relevant signals and symbols from more similar people (Child and Möllering, 2003). A recent study of Weck and Ivanova (2013) claims that particularly at the initial phases of a B-to-B relationship, culturally similarity facilitates information exchange.

To summarize, Similarity-Attraction Theory (Byrne, 1971) offers a parsimonious framework, which explains the reasons and mechanisms on people’s attachment to others and how people are affected in their social worlds. Moreover, the theory asserts that similar attitudes, personalities, physical attributes among people in the same environment influence their attitudes and behaviors. In the organizational environment, people generally compare their attributes among their group members and assess if they are similar or dissimilar (Tsui and O’Reilly, 1989) based on their relational demographic factors. Similar people develop positive attitudes towards each other and behave positively; on the other hand, dissimilar individuals have a tendency to evaluate each other less favorably (Tsui et al., 2002). Thus, we argue that the more similarity (in terms of lifestyle, interests, preferences, values, etc.) there is between buyers and sellers the more sellers’ trust in buyers will be. Therefore, we offer the following hypothesis:

**H<sub>1</sub>:** Similarity is positively related to sellers’ trust in buyers.

## **2.2. Buyer Specific Factors**

The influence of buyer-specific factors on sellers’ trust in buyers may be explained based on competence-based trust literature. Competence-based trust is confidence in the counterpart’s experience, skills, and consistency, which are required to complete a specified task (Lui & Ngo, 2004). In other words, trust in the counterpart is influenced by technical capability, performance history,

and ability based on prior experience (Lee, 2004). For that reason, the counterpart is trusted when there is satisfactory evidence about the counterpart's competence. The competence-based trust is a result of the feeling like "He/she knows what he/she is talking about and it makes sense" (Parayitam, 2010). In accordance with the competence-based trust literature, we investigate the influence of buyer's two core competencies to the seller's trust in the buyer: Task orientation and expertise.

### **Task Orientation**

Task-oriented individuals focus on the completion of a particular task as a measure of success. In a B2B sales situation, task orientation refers to both buyers and sellers focus on getting the sales job done (Keillor, Parker, and Pettijohn, 2000). Venkatesh, Kohli, and Zaltman (1995) defined task orientation (from a seller's perspective in a business setting) as an influential strategy and mentioned that task-oriented strategies, information exchange, and recommendations have a more visible, stronger positive influence to sales processes than non-task-oriented strategies. Previous research indicates that task-oriented (conscientious) salespeople drive higher objective sales performance (Yang et al, 2011). Gesteland (2002) mentioned that task-oriented people tend to close the deals as quickly as possible even occasionally be too pushy and aggressive. This is because the task-oriented buyers are highly result-focused in sales negotiations and try to complete the buying task as effective as possible (McFarland et al. 2006), which may emerge a higher trust in the buyer at the seller's side. Hence, we anticipate that sellers' perceptions of higher task-orientated buyers may generate a stronger trust in buyers. This leads us to the following hypothesis:

**H<sub>2a</sub>:** When sellers perceive buyers to be more task-oriented, sellers' trust in buyers increases.

### **Expertise**

In addition to buyers' task orientation, another important personal factor that may enable the sellers' trust in buyers is the buyers' expertise. Expertise is defined as the knowledge or skill in a particular field. In B2B marketing literature, quite a large number of studies have shown that sellers' expertise increases buyers' trust in sellers or if a buyer's perception of the seller's expertise is high the buyer would be more willing to trust that seller (i.e. Johnson and Grayson, 2005; Lai, Chou, and Cheung, 2013; Bataineh et al., 2015; Newell et al., 2016). Mansour, et al. (2016) also showed that the lack of expertise has a negative impact on trust. Moreover, Crosby et al (1990) found out that expertise can influence both short and long-term sales efficiency because expertise strengthens the positive perception of applicable features associated with the goods or service.

As argued earlier, trust is a two-sided relational element. Thus, this study argues that sellers' perceptions of higher levels of buyers' expertise may also have a positive impact on sellers' trust in buyers. Consequently, we suggest the following hypothesis:

**H<sub>2b</sub>:** When sellers perceive higher levels of buyers' expertise, sellers' trust in buyers increases.

## **2.3. Sale Process Efficiency**

The principal aim of any buyer-seller relationship is to increase sales performance and sales performance has been quantified by academia with different measures including higher profit margin, higher total sales, exceeding sales targets, new product sales, long term customer satisfaction, customer retention and new account acquisition (Webber et al., 2018). Arndt and Harkins (2013) defined sales performance as "*the timely completion of the activity at a quality which is sufficient for the needs of the buyer and the seller at the lowest reasonable cost*" (Arndt and Harkins, 2013, p.434) indicating that sale process is a time-sensitive activity. Stoddard, Clopton, and Avila (2007) also argued that "*the sales process efficiency construct includes task outcomes that streamline the sales process (e.g., better time and territory management, enhanced productivity, spending more time with customers, handling more accounts, lower cost of leads, and lower cost of sales)*" (Stoddard, Clopton, and Avila, 2007, p.42). Thus, an important indicator of sales performance is the sale process efficiency since the quicker a sales activity is accomplished, the faster business transaction can be performed. Sale process efficiency is the capability to successfully close and complete sales calls in a shorter-term (Stoddard, Clopton, and Avila 2006) or in other words, it is the time-bound component of the sales performance. Based on Weitz' (1981) Contingency Framework, and Weitz, Sujan and Sujan's (1986) study about improving selling efficiency, this study suggests that the sale process and its nature (i.e. the duration of the sales job) are important indicators of the sales performance. We believe that sale process efficiency may be more robust in measuring sales performance than behavioral measures, especially in a B2B setting.

The sale process includes certain events, such as customer communications including the initial sale call, company presentations, and contract negotiations, requiring information exchange during the process (Churchill et al., 2000). Previous research suggests that obtaining a trustful relationship between a buyer and seller creates a competitive advantage by increasing the sale process efficiency (Dyer and Chu, 2011), as increased trust generates increased information exchange, mutual disclosure and cooperative intentions of the salesperson (Boles, Johnson, and Barksdale, 2000). From this perspective, in order to be able to increase the sale process efficiency, both buyers and sellers would be willing to increase interpersonal and inter-organizational cooperation where trust is a crucial antecedent (Fan et al., 2012).

The relationship between trust and sale efficiency has been studied widely in the literature. For example, Crosby et al. (1990); Boles, Johnston, and Barksdale (2000); Wagner, Klein, and Keith (2003); and Johnson and Grayson (2005) examined the buyer–seller relationships' influence on selling process efficiency and shown that trust is critical in maintaining higher sale process efficiency. Pullins, Reid, and Plank (2004) and Johnson and Grayson (2005) also provide evidence that trust positively influences sales performance. On the seller side of the relationship, when sellers perceive the buyer trustworthy, sales performance is increased (Chakrabarty et al., 2013). Similarly, we expect that when sellers have more trust in buyers, the sale process efficiency will be higher as well and thus we hypothesize:

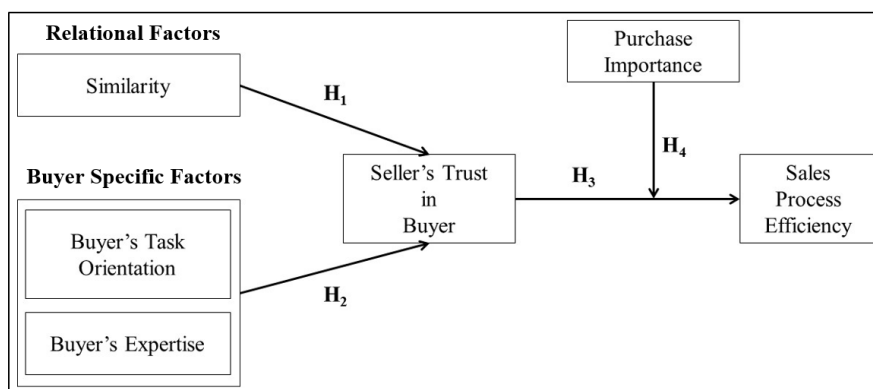
**H<sub>3</sub>:** Sellers' trust in buyers is positively related to sale process efficiency.

## 2.4. Purchase Importance

In his 1973 model of B2B buyer behavior, Sheth states that purchase importance is a product-specific factor, and it varies based on various factors. Purchase importance is categorized as one of the major situational factors that influences the selling process (Cannon and Perreault, 1999; Homburg, Müller, and Klarmann, 2011), which is defined as buyer's "perceptions of the strategic significance of a particular purchase to the organization's objectives" (Hutt and Speh, 2001, p. 93). As indicated by Anderson and Jap (2005) the as perceived risk increases purchase importance also increases since the termination costs for both buyer and seller grow for high purchase importance situations and thus such "mutual hostages" require higher trust (Anderson and Jap, 2005). Therefore, in cases of higher purchase importance trust may have a stronger influence on sale process efficiency and we hypothesize:

**H<sub>4</sub>:** When perceived purchase importance is high, the positive influence of the seller's trust in the buyer on sale process efficiency will increase.

**Figure 1: A Model of the Trust between B2B Buyers and Sellers**



Previous research concludes that expertise helps overcome the tough situations and the natural outcome is the reduced risk due to increased trust between buyers and sellers. For instance, Crosby et al. (1990) showed that the seller's expertise reveals his/her relevant capabilities associated with the goods or services, which can generate trust between buyers and sellers. Even today at the internet age, with much easier information access at any level, expertise still shows a positive and significant effect on trust (Lai, Chou, and Cheung, 2013; Bataineh et al., 2015). Therefore, the seller's age, industry experience, and tenure in the company are added as a control variable.

### 3. DATA AND METHODOLOGY

Different levels of involvement in decision-making and varying importance given to various criteria by each role in a B2B setting create confounding results when gathering reliable data from the buyer side of the relationship. In this study, buying decision-makers' eccentricities and seller's trust in the buyer are examined by surveying salespeople for two reasons: (1) The non-practicality of finding-out the real buying decision-maker in the B2B environment (Garrido-Samaniego and Gutierrez-Cillan, 2004) during a survey process and (2) the fact that the success of any salespeople lies in determining the real buying decision-maker during the B2B sales processes. Thus, using salespeople as the unit of analysis to measure the study variables is the best way to acquire information about the real decision maker in a particular sale. Therefore, a quantitative approach that takes salespeople as the unit of analysis is adopted.

#### 3.1. Data Collection

A convenience sample of B2B salespeople working in a metropolitan area in East Europe is reached via an online data collection process. Using a large online membership database, 3000 survey invitations were emailed to randomly selected sales professionals. The survey link was accessible for three weeks and then a reminder email was sent one week after the initial request. The respondents were asked to think about their most recent (finalized) sale and consider the real buying decision-maker while answering the personal perceptions of the buyer. A total of 547 surveys were collected with a response rate of 18.23%, however, only 235 of them were usable after eliminating the sales professionals working in final consumer markets.

181 (77%) of the respondents were male while 54 (23%) were female B2B sales professionals, from 6 different industries. The age range was between 22 and 62 with an average of 35.29 years. 25% of the respondents were below 30 years old, and 25% of the respondents were above 40 years old. The average industry experience of the sellers was 10.84 years, varying from 1 to 40 years. 25% of the respondents had less than 5 years and 25% of the respondents have more than 15 years of experience. The company tenure of the respondents varied from 1 to 39 years, with an average of 6.78 years. Demographics of the sample are presented in Table1.

**Table 1: Sample Demographics**

Variable	Min	Max	Mean	Industry	Percentage	Industry	Percentage
Seller's Age	22	62	35.29	Communications	17%	Services	33%
Industry Experience	1	40	10.84	Energy	4%	Production	27%
Tenure in the Company	1	39	6.78	Food and Drug	13%	Construction	6%

#### 3.2. Measures

Almost all the measures of this study are derived from the existing literature. The questionnaire contained measures assessing the individual characteristics and demographics of the seller, as well as the seller's perception of the buyer's individual characteristics such as expertise, task orientation, and similarity. Both buyer's expertise (adopted from Johnson and Grayson 2005) and task orientation (adopted from Homburg, Müller and Klarmann 2011) were measured using three items. The similarity measure contained 10 items and is adapted from Karaosmanoglu, Elmadag Bas, and Zhang (2011). Trust is measured with three items derived from Doney and Cannon (1997) and adopted in accordance with the context of this study. We measured the purchase importance with 5-items derived from Cannon and Perreault (1999). All the constructs were measured using five-point Likert-type scale with the exception of sale process efficiency, for which each respondent was asked to provide the actual duration of the sale process and the industry average for similar situations. In other words, sale process efficiency is a measure of how timely this specific sale process was completed with respect to a similar situation and operationalized as the ratio of the total duration for the actual decision-making process and the sectoral average of the similar decision-making processes. Finally, control variables, seller's age, industry experience, and tenure in the company are measured by the number of years.

### 4. ANALYSIS AND RESULTS

Regression analysis was performed to check the effects of the control variables (age, industry experience and tenure in the company) on the overall model. The control variables were first included in the regression on both seller's trust in the buyer and sales process efficiency. Only tenure in the company had a significant effect on seller's trust in the buyer and when expertise, similarity and task orientation was added this effect disappeared. The results of the regression analysis are shown in Table 2.

Secondly, we looked at the variance inflation factor (VIF), and the largest VIF has a value of 2.364. This result ruled out concerns related to multicollinearity in our data (Hair et al., 1998). Therefore, it was concluded that the data set would not cause systematic sample errors, and the data were pooled for subsequent analyses.

**Table 2: Regression Analysis Results**

	Sellers Trust in the Buyer	Sale Process Efficiency
Step 1:		
Control variables		
Age	-.092 (-.876)	-.055 (-.521)
Industry Experience	-.079 (-.638)	-.051 (-.402)
Tenure in the Company	.0231** (2.440)	.082 (.856)
Step 2:		
Control variables		
Age	-.045 (-.532)	-.048 (-.455)
Industry Experience	-.058 (-.577)	-.036 (-.285)
Tenure in the Company	.113 (1.472)	.058 (.602)
Independent variables		
Expertise	.288** (3.642)	-.022 (-.221)
Task Orientation	.298*** (3.711)	.173* (1.719)
Similarity	.147*** (2.675)	.020 (.294)

**Note:** Standardized coefficients are reported along with t values. \*p <.010, \*\*p <.005, and \*\*\*p <.001

To test the hypothesized relationships among the study constructs simultaneously based on a covariance-based procedure modeling of latent variables directly, we used structural equation modeling (SEM) using AMOS software version 24.0.0.

#### 4.1. Measurement Model and Structural Model Fit

First, means and standard deviations, as well as the reliabilities of constructs, were examined. Cronbach's alpha values ( $\alpha$ ) were well above the suggested benchmark 0.7 (Nunnally, 1978) in all instances. Secondly, a confirmatory factor analysis (CFA) was carried out to establish convergent validity. Table 3 shows the means, standard deviations, loadings, and reliability estimates (composite reliability (CR) and average variance extracted (AVE)) for all study constructs. All CR values were above 0.80 and all AVEs were above 0.50, indicating satisfactory levels of reliability. Moreover, all t values were higher than 6, all factor loadings were greater than 0.5, and all loadings were at least five times greater than its standard error indicating convergent validity (Gerbing and Anderson, 1992). Overall, scales are stable, produce consistent results and measure their intended constructs. Finally, we tested for non-response bias (Armstrong and Overton, 1977) and were not able to find any bias between early and late respondents.

**Table 3: Dimensionality, Reliability and Correlations**

#	Construct	Mean	SD	$\alpha$	CR	AVE	Correlations*			
							1	2	3	4
1	Expertise	3.912	.902	.899	.912	.770	1	.743	.223	.554
2	Task Orientation	3.898	.955	.916	.911	.784		1	.321	.568
3	Similarity	2.787	.900	.898	.848	.503			1	.308
4	Trust	3.672	1.059	.849	.803	.689				1

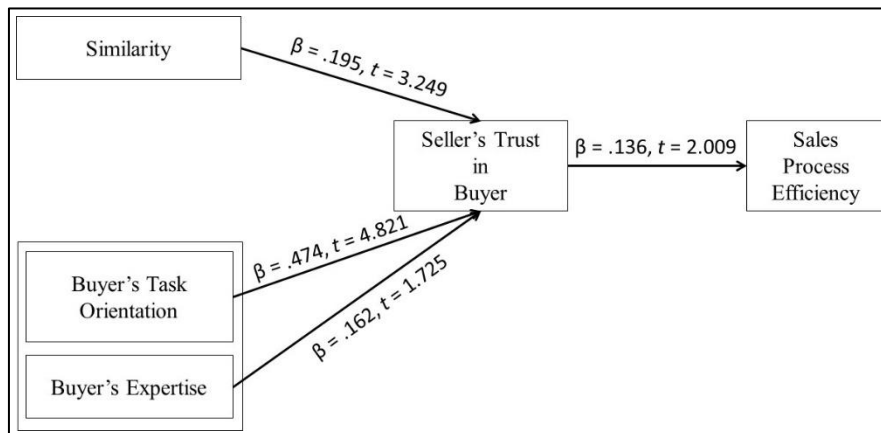
**Note:**  $\alpha$  = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted; \* All correlations are significant at the 0.01 (2-tailed).

Based on suggestions by Gerbing and Anderson (1992), the measurement model was evaluated and standardized  $\chi^2$  value, comparative-fit index (CFI), standardized root mean square residual (SRMR) and root-mean-square-error-of-approximation (RMSEA) are reported. Measurement Model included all items for buyer's expertise, buyer's task orientation, similarity, seller's trust in the buyer and sale process efficiency. The measurement model achieved adequate fit ( $\chi^2=313.758$ ,  $df=155$ ,  $\chi^2/df=$ , 2.024, CFI = 0.95, SRMR= 0.0644, RMSEA= 0.066).

## 4.2. Hypothesis Testing

The results of analyses, before the inclusion of the moderation effects, indicate that all the studied personal factors and perceptions have positive and statistically significant (all  $p < .05$ ) influence on trust. Similarity ( $\beta = .195$ ,  $t = 3.249$ ) indicated a positive impact on trust; however, buyer-specific factors (buyer's task orientation ( $\beta = .474$ ,  $t = 4.821$ ) and buyer's expertise ( $\beta = .162$ ,  $t = 1.725$ )) showed stronger positive influence on trust, which also has a positive influence on sale process efficiency ( $\beta = .136$ ,  $t = 2.009$ ). These results are consistent with study expectations, so H1, H2a, H2b, and H3 are supported. The result of our research model, comprising of antecedents and consequences of seller's trust in the buyer, is summarized and direct, indirect as well as total effects are reported in Table 4.

**Figure 2: The Direct Effects ( $\beta_{\text{direct}}$ ) and  $t$ -values of the Proposed Relationships**



**Table 4: Results of Hypothesis Tests for the Model**

#	Hypothesis	$\beta_{\text{direct}}$	$t$	P	$\beta_{\text{indirect}}$	$\beta_{\text{total}}$
					on SP Efficiency	
H <sub>1</sub>	Similarity → Trust	0.195	3.249	<0.01	.027	.027
H <sub>2a</sub>	Task Orientation → Trust	0.474	4.821	<0.01	.065	.065
H <sub>2b</sub>	Expertise → Trust	0.162	1.725	<0.05	.022	.022
H <sub>3</sub>	Trust → SP Efficiency	0.136	2.009	<0.05	.000	.136

**Note:** Standardized regression weights for direct effects ( $\beta_{\text{direct}}$ ) and  $t$ -values are given. Standardized regression weights for indirect effects ( $\beta_{\text{indirect}}$ ) to SP efficiency and total effects ( $\beta_{\text{total}}$ ) are given ( $n = 235$ ,  $\chi^2 = 345.612$ ,  $df = 160$ ,  $RMSEA = 0.070$ ,  $CFI = 0.94$ ,  $SRMR = 0.1255$ ).

## 4.3. Multi-group Invariance Tests and Moderation Effects

The purpose of the moderation analysis is to examine and express the situational effects that may influence the strength of the structural relationships. In order to test the moderating influence of purchase importance on the strength of the relationship between sellers' trust in buyers and sale process efficiency (H<sub>4</sub>), a multiple-group analysis was performed using AMOS.

Respondents were split into two groups using a mean split of the perceived purchase importance level of the buyer: (1) Low purchase importance and (2) High purchase importance. First, in testing the measurement invariance, a multi-group model was specified in which all factor loadings and all factor variances were constrained equal across the two groups. In testing whether the relationship between trust and sale process efficiency differ across low and high purchase importance situations (H<sub>4</sub>), we first compared a fully constrained model in which the path is constrained ( $\chi^2=545.1$ ,  $df=321$ ) equal across subgroups (i.e. low and high purchase importance) to an unconstrained model ( $\chi^2=541.3$ ,  $df=320$ ) in which the path

is allowed to vary freely. The results of the  $\chi^2$  difference test showed that the groups vary at the model level ( $\Delta\chi^2_{(1)}=3,85$ ,  $p<0.05$ ) indicating that differences in the path relationships between low and high groups exist. Thus,  $H_4$  is supported.

Moreover, to test the relationship at the path level the critical difference ratios regarding the path coefficients were calculated. The coefficient of high purchase importance group (.458) is higher than the low purchase importance group's coefficient (.112) on the sellers' trust in the buyers and sales process efficiency relationship, and the critical difference ratio was significant ( $t = 1.651$ ,  $p < .05$ ). Finally, sellers' trust in buyers and sales process efficiency relationship is significant at high purchase importance group ( $\beta = .239$ ,  $t = 2.446$ ,  $p < .05$ ); but not significant at low purchase importance group ( $\beta = .101$ ,  $t = 1.068$ ,  $p > .05$ ). These findings also provide further support for  $H_4$  that when purchase importance is perceived high, the positive influence of sellers' trust in buyers on sale process efficiency will increase.

## **5. CONCLUSION**

Sale process efficiency is critical for both the selling and the buying organizations in order to reduce the resources (human, energy, time, etc.) spent on each sale process (or buying process for the buying company). Based on the theoretical premise that similarity between buyer and seller (Tsui and O'Reilly, 1989; Doney and Cannon, 1997), buyer's task orientation (Venkatesh, Kohli and Zaltman, 1995) and buyer's expertise (Crosby et al., 1990; Doney and Cannon, 1997) may have a bearing on trust, this study quantitatively tests a model of seller's trust in the buyer and its influence on sale process efficiency.

The antecedents of trust including similarity (Doney and Cannon, 1997; Lichtenthal and Tellefsen, 2001; Child and Möllering, 2003; Weck and Ivanova, 2013), expertise (Doney and Cannon, 1997; Johnson and Grayson, 2005), and task orientation (Gesteland, 2002; McFarland et al. 2006); as well as the sale process efficiency as a consequence of trust (Boles, Johnston, and Barksdale, 2000; Wagner, Klein, and Keith, 2003; Pullins, Reid and Plank, 2004) have been addressed in several studies in the existing marketing literature; however the studies including these variables have primarily focused on the buyer's trust in the seller, the seller's expertise and the buyer's perceptions of seller similarity. On the other hand, the buyer-seller relationship is a two-way street, and thus this study fills in the gap in the literature about the seller's perception of buyer's similarity, expertise, and task orientation, and their outcomes in terms of seller's trust in the buyer and sale process efficiency.

### **5.1. Theoretical implications**

The results of this study indicate that when sellers perceive buyers to be more similar, task-oriented experts, the seller's trust in the buyer and sale process efficiency increases. Thus, this study confirms the discussed and hypothesized positive influences of personal factors on the sale process efficiency in B2B settings. These results suggest that the buyer-seller similarity, task orientation, and expertise, may be integrated into the current B2B buyer behavior model, which will improve our understanding of B2B salesperson performance.

The outcome of this study also recommends that "similarity" can be a new dimension for "adaptive selling". The general definition of "adaptive selling" is "the altering of sales behaviors during or across customer interactions based upon perceived information about the nature of the selling situation" (Weitz, Sujan, and Sujan 1986). From this perspective, the fast assessment capability of the seller about the buyer attitudes and beliefs may help to emphasize points of similarity during sales calls as well as to avoid the discussions related to the points of dissimilarity; an evaluation which is aligned with the "adaptive selling behavior".

Another important finding of our study is the moderating effect of the purchase importance on the relationship between seller's trust in the buyer and sale process efficiency. When we split the sample into two groups based on perceived purchase importance levels, we have reached interesting results. The hypothesized positive effect of the perceived purchase importance on the strength of the relationship between the seller's trust in the buyer and the sale process efficiency ( $H_4$ ) is supported. Moreover, when purchase importance is high there is a significant positive relationship between seller's trust in the buyer and sale process efficiency, however, this relationship becomes statistically insignificant for the low purchase important group. These findings might be related to the sellers' increased risk perception of the buyer for more important purchase situations compared to less important purchase situations (Jackson, 1985). It is reasonable to assume that when a salesperson trusts the buyer, the salesperson may share more information with the buyer, and therefore reduces risk perception of the buyer, which helps to increase the trust in the seller due to reduced uncertainty of consequences (Doney and Cannon, 1997). This risk reduction mechanism helps to expedite the decision period for the buyer, increasing the sale process efficiency. This result might be practically expected, however to the best of our knowledge this study is the first attempt to show this moderation effect in an empirical setting which can be considered as a contribution to the marketing theory.



## **5.2. Managerial Implications**

This study proves that the similarity between seller and buyer has a significant positive influence on the trust, which has a significant positive influence on the sale process efficiency in business-to-business contexts. From that perspective, if the sales team managers want to increase the sale process efficiency, they need to assign similar sellers to their buyer counterparts.

This finding is grounded by the previous researches as the findings indicate that similarity supports the development of trust as similar people tend to evaluate each other more favorably compared to the dissimilar ones (Tsui et al., 2002). The results of this study may help the sales team managers understand the influence of similarity between buyer and seller in a sale situation. Such understanding will assist those in assigning the customers to their team members; and develop methods and techniques to enable salespeople personally assess the degree of similarity with a specific buyer, hence modify their sales behaviors.

Even though matching sellers and buyers based on similarity might sound logical and effective, but it may also pose important managerial problems in an age where customers in some industries may be mostly male or white and enlightened sellers will want to assign women or non-white sales professionals to call on dissimilar prospects. For that reason, team managers also recognize the complex societal and legal factors while assigning the team members to his/her counterparts. Although similarity has a dark side due to possible discriminatory consequences, this study provides an understanding of how the model of similarity can be integrated into salesperson recruiting processes and validates that it is vital for hiring managers to evaluate candidates while considering their awareness and the capability to rapidly examine buyer attitudes and beliefs to determine the similar characteristics.

Another important managerial implication is for procurement organizations. Results indicate that sales (procurement) process efficiency is facilitated by sellers' trust in the buyer when purchase importance is high. If the procurement team managers want to increase their process efficiency for high importance tasks, they may need to assign higher expertise and/or higher task-oriented buyers to this particular procurement activity.

Finally, the results of the moderation analysis reveal that the sales team manager needs to motivate their sellers to trust their buyers more at higher purchase importance situations in order to increase the sale process efficiency in B2B settings. The application of this implication might be a more challenging for the sales team managers since the selling situation is not the core competency of a sales team manager, but a sales team member.

## **5.3. Limitations and Suggestions for Future Research**

We have confidence in our theoretical model about the trust between buyer and seller in the business setting and its contributions to an important, and growing topics for practitioners and researchers in B2B marketing. However, the findings based on our theoretical model have certain limitations that require future research to develop the field further.

This study breaks new ground by studying perceptions exclusively from the seller's point of view. This one-way perspective is worth investigating and contributes to our understanding of buyer-seller relations, however, our research has been conducted only from one perspective and one level (salesperson – buying decision-maker) of a dyadic, multi-level phenomenon. Yet this dyadic phenomenon involves not just person-to-person but also firm-to-firm or person-to-firm or firm-to-person interactions. Thus, the other levels of this dyadic phenomenon, as well as perspectives are worth investigating as well. As the results of this study are derived exclusively from the seller's perspective, it might be interesting to replicate a similar study both buyers and sellers' perspectives concurrently, both from individual and firm levels.

The other concern is about the sale process efficiency as a dependent variable. Sale process efficiency is a time-bound measure of sales performance, which can be defined as the execution of salespersons' correct behaviors and the results of those behaviors to the achievement of organizational goals in a specified timeframe (Hyman & Sager, 1999). However, buyer-seller relationship building is a long-term process and that might be determined not only by how quickly the sale process is completed, but also by the purchase history, size of the order, new account acquisition, or long-term customer satisfaction. Therefore, the replication of this study with not only sale process efficiency but also other aspects of sales performance might be suggested.

The final concern about this research is the generalizability of the results. The survey was conducted on the seller perceptions about buyer similarity or expertise in several industries, however, the ideal situation is conducting the research by one specific industry to eliminate the differences in industry dynamics. Overall, the findings of our study may have interesting implications for marketing theory. Our study also suggests significant opportunities for future researches.

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## WOULD YOU LIKE TO BE A PREMIUM CUSTOMER? A RESEARCH ON THE FACTORS RELATED TO THE INTENTION TO PAY FOR A PREMIUM MUSIC SERVICE

DOI: 10.17261/Pressacademia.2020.1196

JMML- V.7-ISS.1-2020(4)-p.42-52

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**Date Received:** December 9, 2019

**Date Accepted:** March 18, 2020

### To cite this document

Kircova, I., Turkey, P.B., Kose, S.G. (2020), Would you like to be a premium customer? a research on the factors related to the intention to pay for a premium music service. Journal of Management, Marketing and Logistics (JMML), V.7(1), p.42-52.

**Peremant link to this document:** <http://doi.org/10.17261/Pressacademia.2020.1196>

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### ABSTRACT

**Purpose-** Freemium business model offers the customers a limited or unlimited product/service experience. Although the Freemium business model seems to be funded by the advertisement income, the main expectation from the model is to convert users to premium customers for increasing profit margin. In terms of this, the dynamics behind the conversion process of the user to premium customer have been researched in the study.

**Methodology-** The data were collected from 240 people by online survey method. Hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM).

**Findings-** Results indicate that when perceived value of premium version is higher, attitude towards premium version becomes positive. Also, as the perceived value of premium version increases, attitude towards free version gets negative. Another result states that when the level of personal innovativeness increases, social influence related to premium version also increases.

**Conclusion-** Attitude towards free version and attitude towards premium version are both related to intention to pay, however, attitude towards premium version has a stronger effect on intention to pay when compared to attitude towards free version. The key point is to balance the benefits package of free and premium versions.

**Keywords:** Freemium, premium, perceived value, social influence, personal innovativeness.

**JEL Codes:** M30, M31, L80

### 1. INTRODUCTION

The Freemium business models emerged in the 1980s when software companies started to offer free versions that provided limited features. Nowadays the freemium model is also approached as a pricing and marketing strategy. Freemium has been primarily conceptualized by Wilson (2006) and became one of the most characteristic business models of Web 2.0.

Psychological studies prove that individuals associate the price with the cost, no matter how small the cost is (Anderson, 2009). An individual may spend hours to search for the best price and product, however, the amount an individual saves does not comprise the time cost spent on information search and deciding. When something becomes free, individuals generally tend to ignore the cost. Freemium is an appealing choice to customers since it is a cost-free way of trying a new service. A customer can easily upgrade to special features by paying if he/she is satisfied. While the free version that provides limited features targets a

large user base and is funded by advertisements, the fundamental aim of Freemium is to gain profit from paid customers by creating user conversion. This conversion rate is the key point of success for companies that use Freemium business models. Finding balance between premium and free version is crucial for achieving conversion (Haruvy and Prasad, 1998; Faugère and Tayi, 2007; Kumar, 2014). A weak free version proposal that is unable to create a large user database and a premium version which does not ensure payment would have a high chance of failure as a model.

Most of the online service providers find the Freemium business model appealing because of creating high volume user traffic without requiring heavy promotion investments. Therefore importance of using this business model has increased both academically and practically. However, there are only limited studies focusing on the Freemium concept. This study intends to explain the factors related to the intention to pay for the paid version by focusing on a music content provider, Spotify, which offers both free and premium versions to its users.

## **2. LITERATURE REVIEW**

The model of the study is build on the theory of reasoned action (Fishbein, 1967), which utilizes subjective norm and attitude to predict behavioral intention. In order to explain the intention to pay for premium offer, the study extended the theory of reasoned action with perceived value and personal innovativeness variables. The literature and related hypotheses are given in the next sections.

### **2.1. Personal Innovativeness**

Steenkamp et al. (1999) define personal innovativeness as “tendency to try new products or brands instead of insisting on the previous choices” whereas Agarwal and Prasad (1998) define the concept as “willingness to try novel information technology”. Personal innovativeness also reflects the speed of innovation adaptation (Flynn and Goldsmith, 1993). Some researchers approach the concept as a personality trait and claim that personal innovativeness is the determinant of new product adaptation (Citrin et al., 2000) and reflects the willingness to experience innovations (Lin and Filieri, 2015). Measuring innovativeness varies according to the different definitions of innovativeness (Eryiğit and Kavak, 2011). Lu et al. (2005), presented the strong causal relationship among personal innovativeness, social influence and perceptual beliefs in their study. Jones et al. (2002) suggest that personal innovativeness explain technology usage behavior. O’Cass and Fenech (2003) specify that internet users who are highly innovative have high probability to have positive attitudes towards new technologies. Alan et al. (2019) found that personal innovativeness has a moderating effect on the relationship among consumer trust and behavioral intention. Those studies put forward that personal innovativeness demonstrates individuals’ innovation adaptation level compared to their social environment, therefore it is expected that individuals who have the tendency to be an early adopter of innovations also affect the others. Akdogan et al. (2018) found that highly innovative consumers may pay a higher price for novel products since they have low price sensitivity. All things considered, the following hypotheses are suggested.

H1: Personal innovativeness is positively related to social influence.

H2: Personal innovativeness is positively related to attitude towards the free version.

H3. Personal innovativeness is positively related to attitude towards premium version.

### **2.2. Social Influence**

The social influence is described as the psychological situation, subjective feelings, motivations or emotions, beliefs, values or change in behaviors that is the consequence of other individuals’ real or imagined presence or actions (Latané, 1981). According to Burnkrant and Cousineau (1975), individuals use others’ product evaluations as an information source about products. López-Nicolás et al. (2008) indicated that reference groups affect individuals’ behavioral intentions. Phau and Teah (2009) support the direct effect of social factors on behavioral intention while Kulviwat et al. (2009) present findings on the mediator effect of social factors on the relationship among consumer attitudes and behavioral intention. Information about a product’s quality shared by others directly affects consumers’ evaluation (Cohen and Golden, 1972). López-Nicolás et al. (2008) proved that attitudes are affected by information provided by society. In this vein, it is hypothesized that,

H4: Social influence is positively related to perceived value of premium version.

### **2.3. Perceived Value**

Perceived value has not been clearly defined because of its subjectivity (Khalifa, 2004). The concept of perceived value is vague, and it is related to what the customer perceived and gains (Woodall, 2003). Zeitham's (1988) definition of perceived value is "the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given". On the other hand, Patterson and Spreng (1997) claim that value is the exchange of benefits and sacrifices that are perceived by the consumer. Woodruff (1997) explained the concept as the evaluation of products, attributes, and attribute performances. Increasing perceived value is also considered a way of creating competitive advantage (Haghkhah et al., 2020).

In line with those definitions, perceived value is higher when the desired benefits outweigh the costs. Some researchers address perceived value as a single dimension concept (Chen and Chen, 2010, Yang and Peterson, 2004, Tam, 2004; Steenkamp and Geyskens, 2006; Hu et al., 2009) while some address the subject as a multidimensional concept (Sweeney and Soutar, 2001; Sanchez et al., 2006, Heinonen, 2004; Petrick, 2002; Basaran and Aksoy, 2017). This study measures perceived value as a single dimension. Poushneh and Vasquez-Parraga (2019) found that emotional and functional value affect customers' upgrade intentions. Hsu and Lin (2015) put forward that value-for-money affects a user's intention to purchase paid apps. In the light of these studies, customers are expected to develop reactions as a result of perceived value. Therefore the following hypotheses are suggested.

H5: Perceived value of premium version is negatively related to attitude towards free version.

H6: Perceived value of free version is positively related to attitude towards premium version.

### **2.4. Freemium and Premium Service**

The development of the internet and proliferation of computers have brought new products and services to the market and also changed consumers' expectations (Pazvant and Faiz, 2018). One of the novel business models appeared with the improvement in the information technologies is Freemium. The literature on the Freemium business model mostly focused on the intention to convert to premium, namely, intention to pay for the premium version. Wang and Chin (2011) found that there is a positive relationship among the number of premium users that the Freemium users interact and the intention to convert to a premium version. Oestreicher-Singer and Zalmanson (2013) proved that users' engagement rate and willingness to pay for premium services are related, besides, more active users decide more quickly to be a premium after they become a user. Wagner et al. (2014) found that companies are providing Freemium services as a way to increase the chance of user conversion by bringing an intense fit between their free and premium versions. Koch and Benlian (2017) investigated the conversion probability of two different Freemium strategies. Their study found that users who started using Premium first have higher tendencies to convert to premium version compared to users who started using free first. In addition, this effect is strengthened if the functionality of premium and free versions is similar. Voigt and Hinz (2016) suggest that when a user converts to a customer who makes the early payment, users' lifetime value will be high. Hamari et al. (2017) has suggested that quality of service affects intentions to use Freemium services in a positive way and making premium purchases are indirectly related to the service quality. Furthermore, they found that the effect of quality on premium purchases is mediated by the use of Freemium. Since Freemium users usually use free version before the premium version, it is hypothesized that attitude towards free version is related to attitude towards premium version. Furthermore, the theory of reasoned action puts forward that there is a relationship among attitude and behavioral intention (Fishbein, 1967). Therefore, the following hypotheses are suggested.

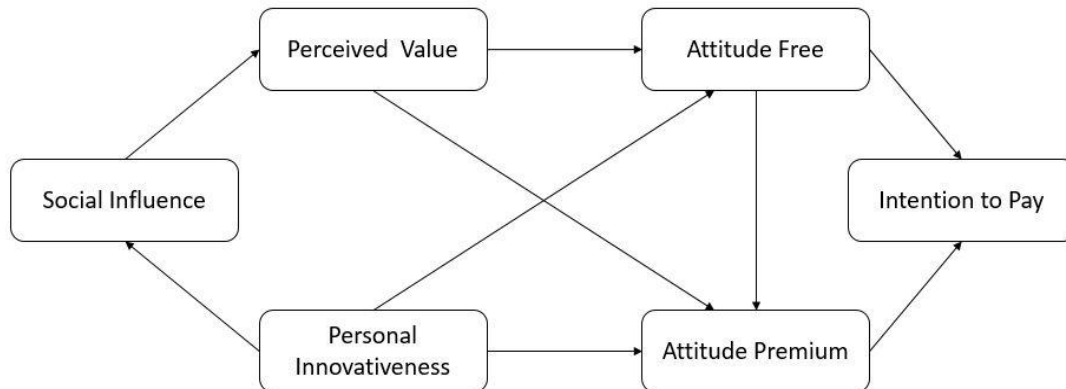
H7: Attitude towards free version is positively related to attitude towards premium version.

H8: Attitude towards free version is negatively related to intention to pay for the premium version.

H9: Attitude towards premium version is positively related to intention to pay for the premium version.



Figure 1: Research Model



### 3. DATA AND METHODOLOGY

#### 3.1. Sample and Data Collection

The population of this study is Spotify users. 289 people answered an online questionnaire during data collection process and all respondents were from Turkey. After eliminating respondents who never used Spotify, a sample size of 240 was obtained. In the first part of the questionnaire, questions regarding the usage of online music services, the usage of free and premium versions of Spotify and payment behavior are included. It was observed that 17.1% of the respondents were only using the free version of Spotify with limited features, 16.2% were using the premium version without trying the free version, 66.7% used the free version first and then subscribed to the premium version. It was also observed that 5% of the respondents did not pay even though they were using the premium version.

In the second part, there are 26 items and 5-point Likert scales were utilized ranging from 1 (strongly disagree) to 5 (strongly agree). In order to measure attitudes towards free and premium versions of Freemium products and intention to pay, the measures developed by Teng and Laroche (2007) and adapted to Freemium users by Wagner et al. (2014) were used. Attitude towards free version scale consists of 4 items; attitude towards premium version consists of 6 items whereas intention to pay scale consists of 4 items. Furthermore; Kim et al.'s (2013) 3-item scale was used to measure perceived value, Agarwal and Prasad's (1998) 4-item scale was used to measure personal innovativeness, Lu et al.'s (2005) 5-item scale was used to measure social influence.

The third and final part of the questionnaire consists of questions regarding the demographic characteristics of the respondents. 55% of the respondents were female and 45% were male. 16.7% of the participants were aged 25 and under, 61.3% were between the ages of 26-35, 18.3% were between the ages of 36-45 and 3.7% were over the age of 46. When the education levels of the participants were analyzed, it was observed that 1.2% were high school graduates, 44.2% were associate or undergraduate graduates, and 54.6% had postgraduate degrees.

#### 3.2. Reliability and Validity Tests

Structural equation is used by researchers to test causal relationships between latent variables. Structural equation modeling, which is widely used to analyze the cause and effect relationship between latent structures, was born in the marketing literature of the 1980s and was adopted by researchers because of the desire to test all the theories and concepts together (Hair et al., 2011). Data were analyzed with WarpPLs 6.0 program. PLS-SEM, which is accepted as the most advanced approach among variance based structural equation modeling techniques, is widely used in marketing studies (Dijkstra and Henseler, 2015). When compared to covariance-based techniques, PLS-SEM has minimal demands on sample size. Moreover, PLS-SEM is appropriate for complex research models (Chin et al., 2003; Henseler and Chin, 2010) and used by researchers because of it can model latent variables, fix measurement errors and estimate all parameters simultaneously (Dijkstra and Henseler, 2015).

The study utilized WarpPLs 6.0 to test the measurement and structural model. Scale reliability indicates the internal consistency of the scale and achieved when Cronbach's Alpha (CA) is equal or above 0,7 (Nunnally and Bernstein, 1994). Furthermore, composite reliability (CR) should also be equal to or above 0,7 (Hair et al., 2011). As seen in Table 3, CR and CA values of the study are satisfactory. After reliability analysis, confirmatory factor analysis was applied for validity of the scales. For achieving validity, factor loadings should be equal or above 0,5 (Hair et al., 2014) and be significant at 0,005 level (Fornell and Larcker, 1981; Bagozzi and Yi, 1988). Table 3 demonstrates factor loadings, cross-loadings and p values. According to Table 3, factor loadings are between 0.545 and 0.944 and significant ( $p=0,001$ ). Furthermore, AVE values are above 0,5, proving that there is no problem for convergent validity (Hair et al.2011). Variance Inflation Factor (VIF) values were also checked to avoid multicollinearity problems. Table 3 also demonstrates that VIF values are less than 5 as suggested by Kock (2012), showing that there is no multicollinearity in the measurement model.

In the interest of achieving discriminant validity, Fornell and Larcker criterion is checked. The square root of the AVE for each construct is greater than all of the correlations among the construct and other constructs used in the research as indicated by Fornell Larcker criterion (1981). The values in Table 2 show that Fornell and Larcker criterion is met.

Goodness of fit (Gof) was calculated for the model to test the model fit with the formula developed by Tenenhaus et al. (2005). The values %10 indicates low, %25 indicates medium, %25 indicates high goodness of fit (Wetzels et al., 2009). The calculated value for the model is 0,404, proving that the research model has high goodness of fit. APC and ARS values should also be significant to achieve the model fit (Kock, 2012). APC and ARS values are also significant as seen in Table 1.

**Table 1: Model Fit Indices**

Index	Results	Acceptance Boundaries	References
APC	0,309**	-	-
ARS	0,2834**	-	-
AVIF	1,055	Accept if $\leq 5$ ; ideal if $\leq 3,3$	(Hair et al., 2011; Kock, 2012)
AFVIF	2,465	Accept if $\leq 5$ ; ideal if $\leq 3,3$	(Hair et al., 2011; Kock, 2012)
Gof	0,404	Low $\geq 0,1$ , Middle $\geq 0,25$ , High $\geq 0,36$	(Wetzels et al., 2009; Kock, 2012)
Notes: APC: Average Path Coefficient, ARS: Average R <sup>2</sup> , AVIF: Average Variance Inflation Factor AFVIF: Average Full Collinearity VIF, Gof: Goodness of Fit. "****" indicates 0,01 level of significance.			

**Table 2: Correlation between latent variables and square roots of AVEs**

	PERVAL	SOCINF	ATTFRE	ATTPRE	INTEN	PI
PERVAL	<b>0.811</b>					
SOCINF	0.369	<b>0.745</b>				
ATTFRE	-0.133	0.047	<b>0.851</b>			
ATTPRE	0.616	0.197	-0.126	<b>0.773</b>		
INTEN	0.697	0.319	-0.289	0.517	<b>0.918</b>	
PI	0.128	0.094	-0.025	0.005	0.088	<b>0.788</b>
Values shown in bold font are the square roots of AVEs.						

Table 3: Scale Validation

	PERVAL	SOCINF	ATTFREE	ATTPREM	INTEN	PIIT	P value	CR	CA	AVE	VIF	R <sup>2</sup>	Q <sup>2</sup>
PERVAL1	(0.663)	-0.201	-0.085	-0.160	-0.480	0.017	<0.001	0.852	0,74	0.658	4630	0.226	0.219
PERVAL2	(0.694)	-0.078	0.015	-0.339	-0.544	-0.016	<0.001						
PERVAL3	(0.765)	-0.084	-0.018	-0.338	-0.151	0.007	<0.001						
SOCINF1	-0.093	(0.852)	-0.071	0.043	-0.131	-0.009	<0.001	0.860	0,795	0.555	1180	0.039	0.040
SOCINF2	0.031	(0.778)	0.019	0.019	-0.039	-0.042	<0.001						
SOCINF3	-0.113	(0.706)	0.131	0.178	-0.308	0.048	<0.001						
SOCINF4	-0.527	(0.563)	0.045	0.105	0.473	-0.039	<0.001						
SOCINF5	-0.289	(0.545)	0.026	-0.096	0.576	-0.061	<0.001						
ATTFREE1	0.222	0.024	(0.659)	-0.037	-0.132	0.022	<0.001	0.913	0,872	0.843	1210	0.091	0.083
ATTFREE2	-0.018	-0.048	(0.824)	-0.031	0.083	-0.012	<0.001						
ATTFREE3	0.268	-0.080	(0.796)	-0.041	-0.036	0.013	<0.001						
ATTFREE4	-0.311	0.071	(0.897)	0.194	0.179	0.003	<0.001						
ATTPRE1	-0.609	0.184	0.031	(0.553)	0.034	0.069	<0.001	0.898	0,862	0.597	1926	0.598	0.577
ATTPRE2	0.019	0.070	0.012	(0.662)	-0.355	-0.001	<0.001						
ATTPRE3	-0.420	0.148	-0.126	(0.699)	-0.090	0.015	<0.001						
ATTPRE4	-0.294	-0.031	0.069	(0.894)	0.196	-0.043	<0.001						
ATTPRE5	0.235	-0.077	0.138	(0.732)	-0.231	0.040	<0.001						
ATTPRE6	-0.225	0.016	0.097	(0.779)	0.286	-0.054	<0.001						
INTEN1	-0.410	0.022	0.017	0.085	(0.944)	-0.000	<0.001	0.955	0.937	0.621	3551	0.462	0.443
INTEN2	-0.159	0.008	0.065	0.031	(0.930)	-0.005	<0.001						
INTEN3	-0.382	0.152	-0.029	0.071	(0.722)	0.002	<0.001						
INTEN4	-0.370	-0.022	0.047	0.050	(0.939)	-0.022	<0.001						
PIIT1	-0.246	0.073	-0.106	0.055	0.091	(0.735)	<0.001	0.867	0,937	0.724	1031		
PIIT2	0.028	-0.121	-0.179	-0.026	-0.143	(0.591)	<0.001						
PIIT3	-0.211	0.143	0.050	0.109	0.100	(0.644)	<0.001						
PIIT4	-0.106	-0.007	0.026	0.021	0.046	(0.872)	<0.001						

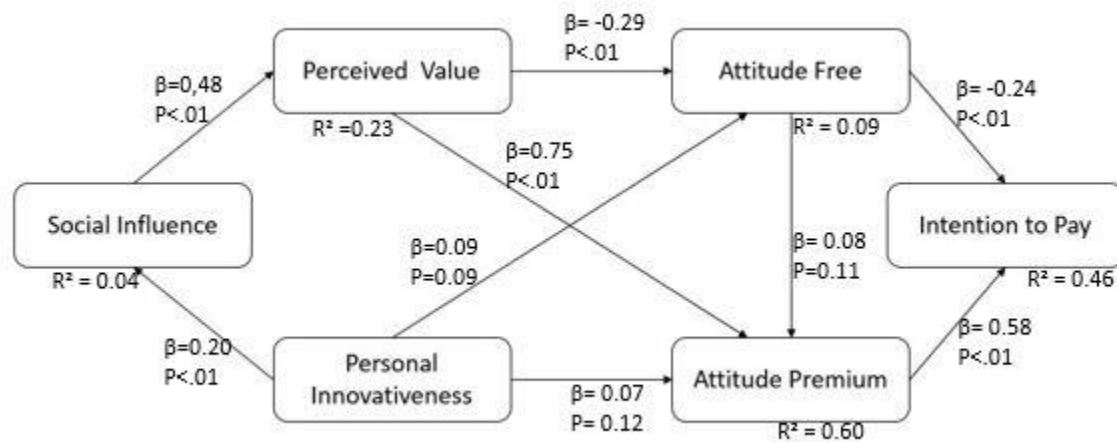
Notes: PERVAL: Perceived Value SOCINF: Social Influence ATTFREE: Attitude Free ATTPRE: Attitude Premium INTEN: Intention to Pay PIIT: Personal Innovativeness in Information Technology, p value: Significance Level CR: Composite Reliability CA: Cronbach's Alpha AVE: Average Variance Extracted VIF: Variance Inflation Factor R<sup>2</sup>: Coefficient of Determination Q<sup>2</sup>: Predictive Relevance Factor loadings are shown within parentheses; loadings and cross-loadings are oblique-rotated.

Lastly, R<sup>2</sup> and Q<sup>2</sup> values were calculated to test model fit. R<sup>2</sup> indicates estimation power of the model and it is valued between 0 and 1. In consumer behavior studies, R<sup>2</sup> value is accepted high when it is over 0,20 (Hair et al., 2011). Besides, Q<sup>2</sup> value is expected to be over 0 if the relationships in the model have high estimation power (Weerawardena et al., 2015). R<sup>2</sup> and Q<sup>2</sup> values are satisfactory and demonstrated in Table 3.

### 3.3. Path Analysis

The research hypotheses were tested with WarpPLs 6.0 program. The research model is defined as a reflective measurement model. The path analysis is shown in Figure 2. 6 of the 9 hypotheses are accepted at  $p=0,01$  significance level. As seen on path analysis, the model explains %46 of the variance in the intention to pay.

Figure 2: Path Analysis



The first hypothesis of the study states that there is a positive relationship among users' personal innovativeness and social influence and the hypothesis is supported ( $\beta=0,198$ ,  $p<0,001$ ). The second hypothesis connotes that there is a positive relationship among users' personal innovativeness and attitude towards free version and the hypothesis is rejected ( $\beta=0,086$ ,  $p>0,001$ ). The third hypothesis states that users' personal innovativeness is positively related to attitude towards premium version and it is also rejected ( $\beta=0.0750$ ,  $p>0,001$ ).

The fourth hypothesis expresses that there is a positive relationship among social influence related to premium version and perceived value of premium version and the hypothesis is supported ( $\beta=0,476$ ,  $p<0,001$ ). The fifth and sixth hypotheses of the study express that there is a significant relationship among perceived value of premium version and attitudes towards free and premium versions. Results indicate that there is a negative relationship among perceived value of premium version and attitudes towards free version ( $\beta= -0,292$ ,  $p<0,001$ ) whereas there is a positive relationship among perceived value of premium version and attitudes towards premium version ( $\beta= 0,754$ ,  $p<0,001$ ). Therefore, both of the hypotheses are supported.

The seventh hypothesis of the study states that there is a positive relationship among attitude towards free version and attitude towards premium version and it is rejected ( $\beta= -0.077$ ,  $p>0,001$ ). The eighth hypotheses indicate that there is a negative relationship among attitude towards free version and intention to pay and it is supported ( $\beta= -0,243$ ,  $p<0,001$ ). Furthermore, the ninth hypothesis which presents that there is a positive relationship among attitude towards premium version and intention to pay is also supported. ( $\beta= 0,576$ ,  $p=0,001$ ). It can be concluded that attitude towards premium version has strongly related to intention to pay when compared to attitude towards free version.

The findings of the path analysis are summarized in Table 4.

**Table 4: Summary of Findings Related to Path Analysis**

Hypothesis	Path Coefficient ( $\beta$ )	Significance (P)	Std. Error	Effect Size ( $f^2$ )	Result
Personal Innovativeness $\rightarrow$ Social Influence	0.198	<0.001	0.062	0.039	Supported
Personal Innovativeness $\rightarrow$ Attitude Free	0.086	0.089	0.064	0.007	Not Supported
Personal Innovativeness $\rightarrow$ Attitude Premium	0.075	0.120	0.064	0.007	Rejected
Social Influence $\rightarrow$ Perceived Value	0.476	<0.001	0.059	0.226	Supported
Perceived Value $\rightarrow$ Attitude Free	-0.292	<0.001	0.061	0.085	Supported
Perceived Value $\rightarrow$ Attitude Premium	0.754	<0.001	0.057	0.571	Supported
Attitude Free $\rightarrow$ Attitude Premium	-0.077	0.114	0.064	0.020	Not Supported
Attitude Free $\rightarrow$ Intention to Pay	-0.243	<0.001	0.062	0.095	Supported
Attitude Premium $\rightarrow$ Intention to Pay	0.576	<0.001	0.058	0.367	Supported

#### 4. CONCLUSION

The digital world has brought several new features, abilities and needs to consumers and markets. Rapid improvement in technology has changed many industries including the music industry. Freemium based music services have become an important player in the market with digitalization waves. Users' habit of listening to music has been strengthened with the help of music providers and earnings from online music sales have surpassed physical music sales (Pwc, 2019). Freemium business model has increased its importance not only in the music industry, but also in gaming, film, video, social media, and storage services. Therefore, freemium business model concept is noteworthy to investigate.

This research analyzes the relationships between attitude towards free version, attitude towards premium version and intention to pay for Spotify, which is a freemium based music provider. Furthermore, the relationships between social influence related to premium version, perceived value of premium version, personal innovativeness and attitude towards free version and attitude towards premium version is investigated. 6 out of 9 hypotheses are supported ( $p=0,01$ ) after the analysis. Results indicate that when perceived value of premium version is higher, attitude towards premium version becomes positive ( $\beta=0.754$ ,  $p<0,001$ ). As the user enjoys the application and thinks that the benefit of the service is higher than the cost, the user develops more positive attitudes. However, as the perceived value of premium version increases, attitude towards free version becomes negative ( $\beta=-0.292$ ,  $p<0,001$ ). It should be underlined that when users have negative attitudes towards free version, their intention to pay increases ( $\beta=-0.243$ ,  $p<0,001$ ). This relationship can be explained by the reality that when users are not satisfied with the free version's limited features; they intend to pay more premium version. The key point is to balance the benefit packages of free and premium versions. The thin line between free and premium versions is considered as essential converting freemium users as Kumar (2014) indicated.

Findings also show that as users' attitude towards premium version becomes positive, their intention to pay increases ( $\beta=0,576$ ,  $p<0,001$ ). The relationship is expected since it is based on the theories that explain attitude, intention, and behavior (Fishbein and Ajzen, 1977). Another confounding finding is that there is no relationship among attitude towards free version and attitude towards premium version ( $\beta=-0.077$ ,  $p=0,114$ ). However, attitude towards free version and attitude towards premium version are both related to intention to pay. According to the results, perceived value of premium version is more important than attitude towards premium version for users. In addition, social influence related to premium price has a positive relationship with perceived value of premium version ( $\beta=0.476$ ,  $p<0,001$ ). Individuals perceive the value of premium version higher when their reference group uses or suggests using premium version. Another result reveals that when the level of personal innovativeness increases, social influence related to premium version also increases ( $\beta=0.198$ ;  $p<0,001$ ). Following this result, it can be inferred that if a services' users are open to innovativeness, premium users can be perceived as more influential. Lastly, there is no relationship among personal innovativeness and attitude towards premium version ( $\beta=0.075$ ,  $p=0,120$ ). In addition, personal innovativeness is not related to attitude towards free version ( $\beta=0,086$ ,  $p=0.089$ ). It can be said that although personal innovativeness can be used to increase social influence, this variable is not a meaningful trait to change attitudes.

Although this research has some noteworthy findings in a promising area, it also has some limitations. Firstly, this research has been carried out on Spotify. Future studies can replicate the study on other Freemium based services and include more variables. Secondly, the sample consists of users from only one country, Turkey. Other studies may include a sample from other countries to compare the results. Even with these limitations, this study is expected to shed light on the management and marketing of freemium based services by investigating the essential factors in the process of converting free freemium users to paying premium customers.

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## THE RELATIONSHIP BETWEEN NEPOTISM AND DISENGAGEMENT: THE CASE OF INSTITUTIONS IN ETHIOPIA

DOI: 10.17261/Pressacademia.2020.1197  
RJBM-V.7-ISS.1-2020(5)-p.53-65

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Date Received: January 8, 2020

Date Accepted: March 28, 2020

### To cite this document

Kawo, J.W., Torun, A. (2020). The relationship between nepotism and disengagement: the case of institutions in Ethiopia. Research Journal of Business and Management (RJBM), V.7(1), p.53-65.

Permanent link to this document: <http://doi.org/10.17261/Pressacademia.2020.1197>

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### ABSTRACT

**Purpose-** This article examines the relationship between nepotism and employee disengagement across Ethiopian organizations. In organizations where nepotism is widely experienced, employee recruitment and promotion cannot be performed fairly. Therefore, individual and organizational competence would be under question which in turn may result in an unfair work environment. Consequently, employees may be alienated from work. The purpose of this study was hence to examine the relationship between the constructs of nepotism and disengagement in the organizations of Ethiopia as a developing country.

**Methodology-** A total of 255 employees were (M=202 and F=53) conveniently selected and made to fill the questionnaire in a face to face and on-line fashion. Nepotism and Disengagement scales were used to measure the variables. All of the variables were measured by scales with six-point intervals.

**Findings -** The factor analyses revealed that nepotism has two factors: nepotistic relationships and preferential policy. Disengagement turned out to be a uni-directional construct. The regression analysis revealed that nepotistic relationships significantly and positively contributed to disengagement whereas preferential policy did not significantly contribute to disengagement.

**Conclusion-** Since the participants perceived nepotistic relationships at work, the resulting employee disengagement is a potential threat for the future of organizations in terms of interpersonal relationships and performance. For preventing possible multi-faceted organizational problems that can affect the efficiency of business activities, managerial intervention seems to be required.

**Keywords:** Nepotism, Nepotistic Relationships, Disengagement, Negative Consequences, Ethiopia.

**JEL Codes:** D23, M1, J71

### 1. INTRODUCTION

Corruption is widely seen as one of the biggest barriers to economic growth, investment, and poverty reduction in most developing nations. The World Bank defines corruption as making use of public property or assets for personal benefit (Campos and Pradhan, 2007). Corruption has several faces: bureaucratic corruption, nepotism and patronage, and state capture (Plummer, 2012). It comprises of bribery, nepotism, fraud, and extortion (Özler and Büyükarşlan, 2011). Corruption is widely seen in most developing countries due to suitable conditions for it to happen in such a society (Ahmadi, 2009).

In various communities, socio-economic conditions lead the individuals to collaborate and cope up with their problems. Doing tasks in groups can alleviate the problems existing in the group, organization or the community besides resolving individual needs; yet merit has been considered as one of the most important factors which affect individuals' performance. If employees feel

injustice, they will lose their motivation to sustain their activities, whereby losses might occur in the organization. According to Adam's Equity Theory, the extent of equity among individuals is accomplished based on the ratio of input imparted to output earned. This helps the employee to develop the perception of fair or unfair behavior within the workplace (Chen, 2008). The harmful impact of corruption occurs when co-workers might experience inequities as they work with employees who are relative to someone in the organization. They feel that an employee has got employment or special favors through nepotism. Besides, due to nepotism, the organization will be less competitive in the market for high-quality candidates and can lose capable executives (Nyukorong, 2014).

The Ethiopian government believes that anti-corruption activities should be supported by scientific research to make them fruitful. However, no previous empirical studies were conducted that gave full information about the reality on the ground. In recent years, diagnostic studies aiming at assessing the level of corruption in Ethiopia have been conducted with the financial support of the development partners. In such a study, the findings of the first phase of the research which focused on the construction sector indicated a high perception of corruption but a low reality. The researchers suggested that it is important to expand the scope of the study to include corruption in health, education, water, land management, justice, telecommunications, and the mining sectors, all relevant to the achievement of the Millennium Development Goals. As the government allocates substantial budgets to these sectors, conducting diagnostic studies and finding out the facts is likely to ensure that the country's financial resources are deployed to the desired objectives and the information gap in this area is filled (Plummer, 2012).

For decades, corruption in Ethiopia has been discussed only at the margins. Perhaps, because many have not experienced corruption as a significant constraint to their lives and businesses or perhaps because a culture of suspicion has inhibited open dialogue, Ethiopia has seen neither the information flow nor the debate on corruption that most other countries have seen in recent years. Based on this, the current study attempted to identify the workplace impacts of nepotism and looked into its relationship with employee disengagement since negative attitudes on the part of employees are likely as a result of such unfair treatment. Specifically, it aimed to assess the contribution of nepotism to the disengagement attitudes of employees in Ethiopian organizations. Hence, it is considered that the results of this study will shed light on the main influences of workplace nepotism that could have input for respective legislators and managers. Furthermore, the study is expected to contribute greatly to the nepotism literature especially for Ethiopia since empirical studies conducted on the topic are very scanty.

In the current study, the first section deals with the literature review about the study variables. The second section covers the methods used to collect the data. The third section presents the results of the study. The final section covers discussion, conclusion, and limitations along with recommendations.

## **2. LITERATURE REVIEW**

### **2.1. Nepotism**

The word nepotism derives from a Latin word for "nephew" of the bishops in medieval times. It means employing or promoting a person because of his/her kinship regardless of his/her abilities, success, knowledge, educational level, etc. Similarly, Online Oxford English Dictionary defines nepotism as the practice, on the part of the popes or other ecclesiastics, of showing special favor to nephews or other relatives in conferring office. Most empirical studies recognize that hiring or even promoting an employee in an organization due to a connection of kinship, blood affiliate, family ties, friendship, etc. is regarded as nepotism (Araslı, Bavik, and Ekiz, 2006; Aydoğan, 2012; Farahmand, 2013; Özler and Büyükarıslan, 2011).

Nepotism is a form of favoritism related to a family connection. Employers are more likely to give privileges to spouses or relatives in the business context. The relatives who benefit from nepotism advance in their careers based on this preferential support instead of their merit. Since nepotism focuses on a hiring factor other than merit, it is considered to be unfair and irrational. In some countries, anti-nepotism policies limit the number of relatives working in the same organization. On the contrary, there may be some pressures on organizations to loosen their strict anti-nepotism policies and further it is believed that there might be a benefit to organizations that practice nepotism. Nepotism is a sensitive issue toward which people usually have negative attitudes in the workplace. It appears during the recruitment, selection, hiring, and career development processes (Fu, 2015; Padgett and Morris, 2005).

Poor education and lack of experience are thought to result in nepotism. Mulder makes the following definition: "The nepotees' prior work experience and education are two important factors in modern-day situations of nepotism" (2008, p.28). She explains that nepotees are very often seen as unable and incompetent in doing their jobs. But according to Bellow (2003), the situation is quite the opposite. That is because nepotees seem to have a great amount of knowledge and resources due to mostly being raised in business environments; besides, this is experienced in a new nepotism context (cited in Kaye, 2009). Bellow (2003) argues that Nepos would not take a position that she/he is unqualified for as this would only result in huge embarrassment if they fail to accomplish the duty.

In December 2012, a report from the Washington Post revealed different nepotism practices from the District of Columbia and Northern Virginia's Metropolitan Washington Airports Authority (MWAA). The associate general counsel defended the supposed nepotism saying that if the employees are competent enough for their positions then relatives working in the same organization would not be a problem. The U.S. Department of Transportation and Congress pressured the District of Columbia and Northern Virginia's Metropolitan Washington Airports Authority to resolve the acts of nepotism. Reports by V. Kimutai (2013) revealed that in Kenya, a senior manager at the Kenya Pipeline Company accepted that nepotism was deep-rooted in the company. He admitted that all senior and middle-level managers had hired their relatives in different departments. The then engineering manager, Bramwell Wanyalikhya agreed his daughter and other senior managers' relatives were employed in the Kenya Pipeline Company. The manager defended by claiming that he did not influence the employment of his daughter as she was picked externally, though the recruitment was internal. Mr. Wanyalikhya told the Parliamentary Committee on Energy that he did not participate in the recruiting committee that selected his daughter hence did not influence the issue (Kimutai, 2013). As most organizations encountered in Kenya had no anti-family nepotism policy, relative nepotism is almost a common phenomenon. What matters is simply the act of providing preferred attention, incentive, opportunity, and assignments that is irrelevant to employee performance and achievement (Ombanda, 2018).

There is a lack of information regarding nepotism and its consequences (Padgett and Morris, 2005). Compared to old research, recent studies emphasize the consequences of nepotism and cronyism, which relate to job satisfaction, organizational commitment, ingratiation, performance, morale, inertia, trust, and so on (Khatri, Tsang, and Begley, 2003; Mele, 2009). Prior research on nepotism, on the other hand, has mostly dealt with attitudes toward different forms of nepotism and the effects of hiring family members in the same organization (Padgett and Morris, 2005).

Nepotism has been criticized as being unprofessional (Abdalla, Maghrabi, and Raggad, 1998). Anti-nepotism policies have eliminated preferential treatment in developed countries, while it is part of daily life in developing countries (Boadi, 2000). Nepotism is an unethical problem commonly seen in various organizations. It has been stated that nepotism has serious and negative implications. This may destroy motivation and organizational harmony among the employees, thus yielding unfairness, inefficiency, and weak dedication to work. There is also a potential for conflict when disharmony and dissatisfaction aggravate in the organization. Besides, a general tendency for the unfavored employees in the organization to engage in counterproductive behaviors occurs which may affect the achievement of organizational goals. Such unfavored employees may result in working below their optimal level, increasing absenteeism, or even damaging the organization's properties and belongings (Farahmand, 2013).

Nepotism is an issue that can have an overall adverse effect on turnover, job satisfaction, and organizational citizenship behavior. If leaders make managerial decisions based on personal relationships ignoring an employee's experience and ability within the company, it brings a detrimental effect on the company's overall success (Haywood, 2018). Nepotism also has a connection with employee empowerment, and it demotivates employees and reduces their sense of equity regarding their organization. So, the managers who empower their employees should be very careful in terms of nepotism not to cause any sense of organizational injustice (Seçilmiş and Uysal, 2016). Nepotistic relationships negatively influence a person's performance and motivation. Such relationships may also raise stress levels; and promote the need for employees to seek employment elsewhere (Jaskiewicz, Uhlenbruck, Balkin, and Reay, 2013). Hence, the organization may risk losing some of its best professionals, which may have damaging effects on the bottom line.

Araslı et al. (2006) and Abdalla et al. (1998) indicated that nepotism demotivates and dissatisfies employees in their jobs. Besides, it erodes loyalty and leads to a lack of commitment toward their company. As a result, involvement in work and cooperation among colleagues will also possibly fail. The probability of absenteeism and overall turnover may increase as a result of nepotistic acts which in turn could affect organizational performance (Abdalla et al., 1998). According to Araslı et al. (2006), nepotism in the

workplace often may direct employees to develop a closer relationship with managers to consolidate their positions instead of showing higher achievement.

## **2.2. Disengagement**

Employee disengagement and employee engagement are related. Commonly, these phenomena are studied as being associated with each other and disengagement is often viewed in the context of its negative impact on the organization (Heikkeri, 2010). Maslow, Frager, Fadiman, McReynolds, and Cox (1970) defined work disengagement after examining human needs. But, this construct has been commonly used in the management literature since the 1990s. Kahn (1990) forwarded the theory on work disengagement based on earlier motivational theories. According to Kahn (1990), disengagement is a conscious act of withdrawal and defense. Kahn (1992) further describes the contrast to psychological presence as the psychological absence or alienation from work. Perrin (2011), on the other hand, categorized employees according to their engagement levels: fully engaged, moderately engaged, and highly disengaged from work. As a consequence, disengagement can be defined as a type of cynical attitude and involves distancing oneself from work (Demerouti, Bakker, Nachreiner, and Ebbinghaus, 2002).

Disengagement is characterized by a lack of interest, enthusiasm, and commitment to the job. The disengaged employees are less involved in their business and they might even quit work. According to Schaufeli, Bakker, Van der Heijden, and Prins (2009), disengagement can be described as a negative, lacking work-related state of mind that is signified by a weaker and betrayal personality. For Kahn (1990), disengagement is physical, cognitive or emotional withdrawing or defending by employees during the accomplishment of their work. Kahn (1990, p. 701) gave the following definition for personal disengagement: "Personal disengagement is the simultaneous withdrawal and defense of a person's preferred self in behaviors that promote a lack of connections, physical, cognitive, and emotional absence, and passive, incomplete role performance." As the disengaged employees detach emotionally and cognitively from their tasks, their behavior becomes unresponsive, robotic, and effortless towards their performance (ibid, p. 701).

Previous studies on employee disengagement are lacking as the causes of the construct were not adequately explored (Govindarajo, Kumar, and Ramulu, 2014; Heikkeri, 2010; Pech and Slade, 2006). The information regarding the antecedents of disengagement is also very scanty. It has been focused merely on the measurement and analysis of symptomatic factors instead of causal factors of disengagement. Thus, employee disengagement remained relatively unexplored, hence was limited to its financial impacts (Pech and Slade, 2006).

According to Pech and Slade (2006), Branham (2005), and Kahn (1990), there are three major sources of employee disengagement. Those caused by the external environment, psychological causes, and organizational causes. Organizational causes are concerned with the lack of resources, work complexity, the company's culture, poor administration, bureaucracy, bad working conditions, transformational changes, performance criteria, restructuring of the company, and the like. Other factors leading to disengagement include laziness, poor interpersonal relationships, employees' resource abuse, illness, competency issues, and ethical problems.

Disengaged employees are unhappy and the negative influences that they create may destroy the achievements of engaged workmates (Gallup, 2006). They are disconnected from their jobs, unsatisfied with their personal lives and professional careers, less efficient, less loyal to their organizations, and experience stress and insecurity about their jobs (Heikkeri, 2010; Price, 2007). Disengagement is increasing in workplaces promoting costs and loss of productivity as employee commitment declines (Jauhari, Sehgal, and Sehgal, 2013). Disengaged employees lack enthusiasm and energy as their works are less productive (Inoue et al., 2014; Moody, 2012). It is widely believed that disengaged employees are not strong in problem-solving and do not worry about the realization of organizational vision, purpose, and values. They do not apply their whole efforts to maximize productivity and display a lack of interest in doing so. Besides, disengaged workers are not competitive and they do not provide enough time and energy to make the workplace more effective and conducive (Allam, 2017). It was also found out that 73-81% of disengaged employees' energy is not utilized in the workplace when they experience injustice (Heikkeri, 2010).

## **2.3. The Relationships between Nepotism and Disengagement**

So far, the literature has not presented examples on the direct relationship between nepotism and disengagement; however, other related organizational behavior constructs associated with nepotism were studied. The organizational culture may differ from one organization to another, which is based on philosophies, beliefs, values, expectations, assumptions, attitudes, and norms (Schein, 1990). The nature of public-owned organizations is that these are managed through a yardstick that is bureaucracy, which

is the sole reason why bureaucratic culture prevails in the public sector organizations. The prevalence of bureaucratic culture means that a top-down approach is used for decision making. This promotes an authoritarian style of management, infrequent communication between employees and decision-makers, employees' waste of time on redundant work and always obeying orders, and the resistance to change (Claver, Llopis, Gascó, Molina, and Conca, 1999). The bureaucratic culture is highly characterized by orders; the transfer of employees and lack of incentives and rewards may lead to a high perception of organizational injustice. Besides, it is associated with rigid organizational policies, strict rules, and regulations. As this kind of culture is not supportive, unfair procedures and organizational politics are experienced (Andrews and Kacmar, 2001; Peters, 2002; Yeşilkağıt, 2004). Antecedents, predictors, motivators, and degrees of work disengagement vary across organizations based on their culture. This is mainly emanated from nepotism and favoritism where the majority of employees face conditions of work overload (Yeşilkağıt, 2004). Injustice, organizational politics, work overload along with the bureaucratic culture can aggravate work disengagement of employees (Aslam, Muqadas, Imran, and Rahman, 2018). However, it is also mentioned that reform in the bureaucracy by creating a clean government and good governance may also be a remedy for getting rid of problems like corruption, collusion, and nepotism (Primanto, Suwitri, and Warsono, 2014).

Nepotism has negative impacts on the morale of employees who work with the relatives of high-level executives and these employees feel that a family member is being promoted and awarded without competence (Abdalla et al., 1998; Asunakutlu and Avci, 2010). Employee alienation occurs if workers perceive that recruitment, selection, promotion, work divisions, the delegation of authority, information flow, and relations in the workplace are not handled appropriately. When organizational practices such as execution styles based on nepotism are in place, it is obvious that employees will develop an attitude of alienation towards their respective organizations. In such a situation, organizational relations are deteriorated, interaction among employees is harmed, and general inefficacy in the work atmosphere occurs (Ichniowski, 1988). Consequently, negative influences on job satisfaction (Araslı et al., 2006), job security (Keleş, Özkan, and Bezirci, 2011), and attitudes towards the organization are observed.

Studies on various types of establishments about the topic (Abdalla et al., 1998; Asunakutlu and Avci, 2010; Büte and Tekarslan, 2010; Ciulla, 2005; Özler, Ergun, and Gümüştekin, 2007) have emphasized the negative impacts of nepotism in terms of the attitudes/behavior towards the work or the organization by employees. Alienation is considered as a negative status which reflects the estranged expectations of individuals from affiliated organizational structures, values, rules, and relations (Şimşek, Çelik, Akgemci, and Fettahlıoğlu, 2006). Such isolation leads to organizational problems such as loss of job satisfaction, low productivity, low motivation, and high job stress, low level of loyalty to the organization, high-level workforce turnover, and quitting (Erkiliç, 2012; Kanungo, 1992). The distance between the worker and the enterprise impedes employees' contribution to the organization.

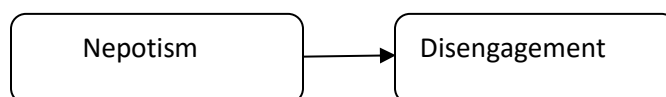
Favoritism leads to inequality within the workplace and this unfair treatment can impact how employees work together (Khatri and Tsang, 2003). Ford and McLaughlin (1986) stated that this perception of inequities could result in "unfavorable interpersonal relationships between paired employees and their co-workers". A survey conducted with 2,700 samples offered various findings on nepotism. Firstly, nepotism has got a bad image within organizations. Secondly, nepotism has likely affected the behavior and engagement of employees and managers. Moreover, these unfair actions might have eroded the organizational structure. The researcher observed very quickly the recurring themes and commonalities between the seemingly negative reviews. Such organizations are characterized by negative comments, favoritism, limited communication, low salary, poor working conditions, and desperate staff. More comments are associated with a lack of advancement opportunities, shift patterns, no consideration for work-life balance, and working too much overtime (Ewing, 1965).

It is also observed that this subject has not been emphasized in the relevant literature. Remarkably, a significant part of the studies addressing the subject (Abdalla et al., 1994, 1998; Araslı et al., 2006; Asunakutlu and Avci, 2010; Ciulla, 2005; Ford and McLaughlin, 1985; Hutcheson, 2002; Ichniowski, 1988; İyışleroğlu, 2006; Özler et al., 2007; Padgett and Morris, 2005) are those which have endeavored to define the concept and described the positive and negative aspects. Besides, they made efforts to reveal the relations with various organizational behavior constructs such as job satisfaction, security, and cynicism. Although disengagement is a significant attitude which employees may develop against their organizations with the potential to produce negative consequences both for employees and organizations, it can be said that there is very little research in the literature addressing this topic.

Within this framework, an empirical study is decided to be carried out to explore the relationship between nepotism and disengagement. The study seeks to contribute to the related literature and propose solutions for the experienced problems of nepotism at work in Ethiopian organizations. Based on the above arguments, it is hypothesized that:

Nepotism positively contributes to disengagement

.Figure 1: Theoretical Model



### 3. METHODOLOGY

#### 3.1 .Participants and Procedure

Through a convenience sampling method, 26 public and private institutions were selected. The institutions comprised various sectors such as minister offices, county offices, tax and revenue offices, construction, insurance, textile, and other manufacturing and service-providing sectors. The participants were accessed through face-to-face contact and by distributing online soft-copy questionnaires. The respondents were informed that their participation was voluntary and the confidentiality of the responses was ensured.

The demographic characteristics of the sample were diverse as employees were working in various positions and departments. The sample is composed of 255 participants. Of the respondents, 79.2% were males whereas 20.8 were females; and 43.5% held at least a university degree. Regarding age, 54.1% of the participants were younger than 35 years, 32.5% were from the ages 36 up to 45, and 13.3% were older than 45 years. Besides, public and private employees constitute 72.5 % and 27.5% respectively. Their work experience ranged from beginners to more than 15 years.

#### 3.2. Instruments

The instrument used to gather data from the participants in this study had two parts. The first section of the questionnaire includes 11 items for nepotism whereas the second section contains 7 items for disengagement. The original English versions were used to obtain data from the respondents who were fluent in the English language. The 11 items forming the nepotism scale were developed in three different studies. The first group of 7 items was taken from Abdalla et al. (1998). This study showed a coefficient alpha of 0.87. The instrument also consists of 2 items developed by Araslı et al. (2006). The remaining 2 items were taken from Büte (2011). A sample item for the scale is: "Workers in my institution depend on a high-ranking relative."

A 7-item disengagement scale was used to assess the participants' perception of their disengagement attitude in their particular workplace. The items were originally developed by two different groups of authors each contributing a different number of items. The first 2 items (items 1 and 2) were developed by Gaillard and Desmette (2008). The remaining 5 items were developed by Demerouti, Bakker, De Jonge, Janssen, and Schaufeli (2001). The reliability coefficient for the total scale was reported as 0.70. A sample item for the scale is: "I feel less and less engaged in my work." All of the variables were measured by scales with six-point intervals ranging from "strongly agree" to "strongly disagree."

### 4. RESULTS

#### 4.1. Factor Analysis and Reliability of the Scales

Initially, factor analysis and reliability tests of the scales were conducted. Exploratory factor analysis was conducted for the nepotism scale and the result is presented in Table 1 below. Firstly, the Kaiser-Meyer-Olkin measure of sampling adequacy test and Bartlett's Test of Sphericity was conducted. The Kaiser-Meyer-Olkin measure of sampling adequacy was higher than 0.50 (observed as 0.88) and Bartlett test value ( $X^2=1020.996$  and  $DF=45$ ) was significant ( $p<0.001$ ) for this analysis, showing that it is statistically appropriate to rely on the results of the factor analysis. Then, exploratory factor analysis was conducted using principal component analysis with varimax rotation. The initial analysis revealed two separate factors. The first factor had 8 items that loaded all above 0.5. Factor two consisted of two items which also loaded well above 0.5. Only one item (Item 3 - "Employees of

this organization always feel that they need someone they know or a friend in a high-level position”) was removed because it was loaded with similar weights in two different factors. The variance explained by the two factors was 60.30%.

Then, the reliability of each factor was tested using Cronbach’s alpha. The results of the analysis showed that both factors were adequately reliable. Factor one which was named “*nepotistic relationships*” had a Cronbach alpha of 0.88 and factor two which was named “*preferential policy*” had an alpha value of 0.69. The results indicated that the instrument that measured the two sub-dimensions of nepotism is indeed satisfactorily reliable.

**Table 1: Factor and Reliability Test Results for the Nepotism Scale**

Factors	Items		Factor Loadings	% of Variance	Reliability
Nepotistic relationships	Q8	Workers try to meet the demands of other workers who have relatives in the upper-administration.	.83	46.59	.88
	Q7	I watch what I say when I talk to colleagues who have relatives in the upper administration.	.77		
	Q6	Department heads are scared of workers who have relations in the upper-administration.	.76		
	Q9	Workers value family members’ or acquaintances’ benefits rather than the organization’s benefits in general.	.76		
	Q11	It is very difficult to remove or to demote people who have relatives in the upper administration.	.72		
	Q10	Preferential treatment causes internal conflicts in my organization.	.71		
	Q5	Workers in my institution depend on high-ranking relatives.	.65		
Preferential policy	Q2	My organization promotes the practice of preferential treatment in its hiring and advancement policies.	.86	13.71	.69
	Q1	The topic of preferential/partial treatment is the basis of frequent discussion within my workplace.	.85		

Exploratory factor analysis was also conducted for the disengagement scale (see Table 2 below). Firstly, the Kaiser-Meyer-Olkin measure of sampling adequacy test and Bartlett’s Test of Sphericity was conducted. The Kaiser-Meyer-Olkin measure of sampling adequacy was higher than .50 (observed as .817) and Bartlett test value ( $X^2=648.051$  and  $DF=21$ ) was significant ( $p<0.001$ ) for this analysis, showing that it is statistically appropriate to rely on the results of the factor analysis. Then, exploratory factor analysis was conducted using principal component analysis with varimax rotation. The initial analysis revealed a single factor. The factor has 7 items that loaded all above .50.

Later, the reliability of the emerged single factor was tested using Cronbach's alpha. The results of the analysis showed that the factor was adequately reliable revealing a Cronbach alpha of .83. The name of the factor remained unchanged ("disengagement") since only a single factor was obtained. The variance explained by disengagement was 50.72%.

**Table 2: Factor and Reliability Test Results for the Disengagement Scale**

Factor	Items		Factor Loadings	% of Variance	Reliability
Disengagement	Q7	I feel less and less engaged in my work.	.79	50.72	.83
	Q5	Lately, I tend to think less at work and do my job almost mechanically.	.78		
	Q6	I do not find my work to be a positive challenge.	.74		
	Q4	It happens more and more often that I talk about my work negatively.	.72		
	Q2	I consider work not to be a very important part of my life.	.71		
	Q1	Doing my job well is not very important to me.	.69		
	Q3	I rarely find new and interesting aspects of my work.	.53		

#### 4.2. Regression Analysis

Simple linear regression analysis was conducted to assess the relationship between nepotism and disengagement. Nepotism is the independent variable and has two sub-dimensions: Nepotistic Relationships and Preferential Policy. Disengagement is the dependent variable that was found to be a uni-dimensional construct. The results of the regression analysis are presented in Table 3 below.

As can be seen from the table below, there is a significant relationship between the sub-dimension of nepotistic relationships and disengagement. Nepotistic relationships positively predicted disengagement since the simple linear regression model established between the two variables is significant ( $\beta=.34$ ;  $F=33.74$ ;  $p=0.000$ ). The result indicates that 11.8% ( $R^2=.118$ ) of the disengagement attitude is explained by nepotistic relationships. However, the model established for the sub-dimension of preferential policy and disengagement was not significant ( $\beta=.04$ ;  $F=.37$ ;  $p=.55$ ). The result shows that preferential policy is not a significant predictor of employees' disengagement attitude.

Thus, the study hypothesis that states "Nepotism positively contributes to disengagement" is partially supported.

**Table 3: Regression Analysis of the Relationship between Nepotism and Disengagement**

Models	Model Summary			Anova	Standardized Coefficients		
	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	B	T	P
Disengagement with nepotistic relationships	.34	.118	.114	33.74	.34	5.81	.000
Disengagement with preferential policy	.04	.00	-.00	.37	.04	.60	.55

## 5. DISCUSSION, CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS

### 5.1. Discussion

Nepotism is an unethical problem in an organization that has strong negative impacts over periods. It erodes the organizational unity and motivation of the workers, thereby causing unfairness, weak dedication to work, and inefficiency. There is also a possibility for conflict when dissatisfaction and disharmony are experienced in the organization. The unfavored employees may



be inclined to engage in counter-productive behaviors that could affect the realization of the organizational goals. Such demoralized employees may not work full-heartedly and may frequently experience absenteeism or may even damage organizational belongings (Farahmand, 2013).

It is in this way that the impact of nepotism on employees' work disengagement becomes important. In the past, most nepotism theories and empirical studies had primarily centered on the outcomes which were considered relevant to the employer. From now on, it is expected that employee-related consequences will find more place in the related literature. The present study makes an effort to contribute in this respect.

The main purpose of the current study was to investigate the contribution of nepotism to employees' disengagement attitudes. The overall results of the analysis partially supported the proposed hypothesis. The relationship between nepotistic relationships and disengagement was supported. However, no significant relationship between preferential policy and disengagement was found. In the following sections, the results of the analysis are discussed in comparison with the previous related empirical findings.

In this study, primarily, it was proposed that nepotism would have a positive contribution to disengagement. In terms of nepotistic relationships, the hypothesis was supported. This was consistent with some findings. For example, a study conducted by Araslı et al. (2006) in hotels indicated that working in an unfair organization makes employees dissatisfied and demoralized. This might force them to be disloyal and uncommitted to the organization. Such an issue may affect their job interest, work involvement, cooperation, and coordination with their co-workers in their business. These may result in less productivity, absenteeism, and turnover as nepotism is based on unfair advancement. Moreover, nepotism causes other psychological problems such as disappointment, frustration, stress, and negative word of mouth in the hotel or may compel them to change their jobs when possible.

Similar results were obtained in another study as follows. The results showed that nepotism dominated human resource policies within organizations in Cyprus. Here, bank employers generally preferred to hire, reward or promote their relatives or friends. By doing so, they did not seem to value knowledge, skills, abilities, and training of applicants for jobs. Instead, employers commonly considered blood ties, close friendships, and ideological inclinations. Especially, the key ranks such as managerial and supervisory positions presented very limited job opportunities in these workplaces (Araslı and Tümer, 2008). Therefore, such a widespread occurrence may be expected to harm employees' connection with the organization and work.

There were also other study results obtained in Turkey which revealed the nature and organizational effects of nepotism as follows. There was a general perception shared by employees that nepotism is widely exercised during job promotion in organizations (Büte and Tekarslan, 2010). It seems that personal relationships were considered to be the driving force for promotion instead of any given standards in the organizational structures active in the community. This appears to reflect the characteristics of the collectivist culture where the relationships in the organization may be more inclined towards relations with the family, kith and kin, friends, and partiality. On the other hand, the assessed negative effects of nepotism have their reflections on the trust in the organization (Keleş et al., 2011) and job satisfaction of employees (Asunakutlu and Avcı, 2010).

Organizational studies reveal that job specifications, levels of compensation in the workplace, and equity among employees are used to determine workers' earnings. Besides, the level of rewards is determined by individual contributions using bonus schemes based on employees' qualifications, past experiences, skills, and bargaining power. Bellow (2003) stated that Human Resource Management must ensure that organizational policies are fair and equal. However, in a real sense, an individual's salary is observed to be increased by nepotism depending on the employee's relationship with the managers within or outside the organization (Goldberg, 1982). It was seen that earning undeserved benefits in an unethical way through blood ties or interpersonal relationships has been common in organizations (Boadi, 2000). When it comes to job recruitment and promotion, partiality is displayed in terms of favoring relatives and friends instead of taking employee qualification and vitality to the organization into account. Consequently, others are influenced negatively. Moreover, studies indicate that nepotism in staff may reinforce conflicts of interest. The result is the negative impacts of these practices on employees.

A study by Breuer, Nieken, and Sliwka (2010) showed that organizations were characterized by the diversity of people from various backgrounds and outlooks. Although such a human capital exists, nepotism poses a powerful threat to the growth of the company and individual career progress. Especially in the unemployment world, nepotism may be quite demoralizing when one finds out that others are easily getting the work he/she deserves, all because they know someone in the upper position. Unfortunately, this practice may be widespread in almost all private and public organizations in some developing countries. The biggest shortcoming

of office nepotism is that it leaves aside qualified human resource that would have greatly impacted on performance, and it promotes the undeserving few personalities. It should finally be noted that workplace nepotism commonly adheres to the hiring of people with fewer qualifications, skills, and experiences in positions based on their relationship with the higher administration (Allen and Meyer, 1990). Therefore, it should not be surprising to find out that the bond between the employees and the organization gets weakened.

## **5.2. Conclusion**

Nepotism harms personal and social relationships by impeding employees' workplace engagement. There is significant research evidence that nepotism undermines organizations and the employees who take part in the service. Nepotism hampers effective competition for the superior positions and impedes high performers' career progress in workplaces. This phenomenon can be viewed as a form of discrimination through which relatives or friends are recruited or promoted not because of their qualifications and abilities, but only because they have blood ties or networks with the managers of the organization. Especially, in developing collective societies, nepotism which is part of the societal culture is pervasive in an organization. Such a situation alienates employees from their work. Employees' reluctance in developing ties with their work may, in turn, result in multi-faceted organizational problems that affect the efficiency of business activities. Generally, it is a common problem in almost all organizations and it affects the morale, climate, and overall performance of the organization. Ethiopia as a developing country is no exception to the aforementioned impacts of nepotism. Since nepotism is considered a form of corruption that adversely affects organizational and economic development, corrective actions must be taken to combat it.

## **5.3. Limitations**

In the current study, primarily the relationship between nepotism and disengagement were investigated. Though the study added significant inputs to the existing body of knowledge regarding the relationship between nepotism and disengagement, some potential limitations have to be acknowledged. When overall employees in Ethiopia were considered, the sample size was small which may lead to possible bias. As a matter of chance, in the organizations contacted, most of the participants were males; hence, gender participation was not balanced. In this study, it was attempted to assess the relationship of nepotism with a single variable disengagement; hence, potential intervening and moderating variables were not considered. This study was conducted in the organizations of three cities, namely, Addis Ababa, Adama, and Shashamane in a single country, Ethiopia. However, a comparison between organizations in different countries could not be realized. Due to limited time, the data collection method employed was convenience sampling which may affect the representativeness of the sample. The cross-sectional design of the current study, on the other hand, does not permit to make causal inferences. The present study also lacked an intensive qualitative dimension in data collection to elicit more information with focus group discussions and interviews. Moreover, the study required the respondents to rate themselves on nepotism and disengagement. The results presented may have been distorted as some of the respondents may be beneficiaries of nepotism.

## **5.4. Recommendations**

The findings of the study revealed that nepotism had adverse effects on employees' engagement due to advantages provided for privileged persons. The results obtained from this study are vital for the employers and managers of the organizations in Ethiopia. Considering this issue, anti-nepotistic laws should be inculcated to the labor laws and properly enforced by the respective organizational bodies. Nepotism leads to alienation and impedes departmental teamwork and overall organizational successes; therefore, the nepotistic culture should be discouraged. Moreover, to minimize the impact of nepotism in respective organizations, anti-nepotistic rules and procedures should be enforced strictly to control preferential treatments during the induction and promotion of the employees.

Based on the limitations of the current study, the following points may be recommended. The future studies should include the client's point of view instead of a single employee's side to assess the issue complementarily. It may be suggested for future studies to adopt a longitudinal design that would help establish causal relationships. Besides, the next studies may use in-depth interviews as an alternative approach for providing richer insights into nepotism and disengagement relationships. The replication studies in other Ethiopian cities should be conducted for the cross-validity and generalizability. Also, the moderating roles of personality types on the relationship between nepotism and disengagement may be explored to obtain a more comprehensive understanding of the topic.

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