

The Long And The Short Of eCommerce Intentions: Examining The Distinguishing Effect Of Time Orientation Between Behavioral Intentions And Behavioral Goals

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ABSTRACT

This study analyzes the distinction, both conceptually and operationally, between behavioral intentions and behavioral goals. This paper recognizes the importance of time orientation in the measurement of behavioral intentions, as defined by Fishbein and Ajzen (1975). Literature is reviewed that shows this conceptual definition is often misused in information systems (IS) research because behavioral intention is sometimes operationalized with a long-term time orientation (i.e., continued use). This paper offers an empirical assessment, in the context of online purchases, of the discriminant validity between behavioral intentions and behavioral goals. The results of the survey (N = 458) indicate that time orientation does distinguish these constructs in an eCommerce setting. Theoretical implications are that long-term oriented behavioral intentions actually represent behavioral goals and thus have less conceptual implications for predicting actual behavior. Practical implications indicate that such distinctions may influence eCommerce strategies for online impulse purchases as well as customer relationship management.

Keywords: Behavioral Intention; Behavioral Goal; Online Impulse Buying; Customer Relationship Management

INTRODUCTION

Behavioral intention has been an important variable in many electronic commerce (eCommerce) studies (e.g., Loiacono, Watson, & Goodhue, 2007). According to the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Theory of Planned Behavior (TPB) (Ajzen, 1991) and applied frameworks, such as the Technology Acceptance Model (TAM) (Davis, Bagozzi, & Warshaw, 1989), behavioral intention is considered an immediate antecedent of behavior (Davis et al., 1989). In the context of eCommerce, it has been found to be closely correlated with consumers' behavior online. For instance, behavioral intention has been used to predict behaviors such as making an online purchase (Van der Heijden, Verhagen, & Creemers, 2003), intention to use a website (Gefen, Karahanna, & Straub, 2003; Van der Heijden, 2004), intention to reuse a website (Loiacono et al., 2007), continued use (Bhattacharjee, 2001b), and revisiting a website (Van der Heijden, 2004), to name a few.

Although behavioral intention is often the ultimate endogenous variable in a research model, the link between intentions and actual behavior can be inhibited. In psychology, research has shown that there are inhibitors of both the intent to perform a behavior and the behavior itself (for a discussion, see Ajzen, 1991). Further, in IS research, knowledge and resources have been identified as "barriers to technology adoption intent (e.g., Mathieson, 1991; Taylor & Todd, 1995) and actual usage behavior" (Taylor & Todd, 1995)" (Venkatesh & Brown, 2001, p. 76). Interestingly, eCommerce researchers have integrated behavioral intention in their research models with the

assumption that the intention-behavior correlation will be strong in all cases, disregarding the occurrence of these potential inhibitors.

One of the inhibitors between the intention-behavior relationship is the time interval between the behavioral intention and the actual behavior (Fishbein & Ajzen, 1975). The overarching goal of this study is to examine the effect of time interval on the intention-behavior relationship. More specifically, this study focuses on distinguishing between *behavioral intentions* that immediately precede behavior and *behavioral goals* which are focused on desired end states. The conceptual difference between these two constructs is the extent of time to the expected behavior. The theoretical implications of this distinction lie in the implications for predicting actual behavior.

In this paper, we focus on distinguishing between behavioral intentions and behavioral goals. We first review relevant literature to highlight the need for this conceptual distinction. We then explicitly define behavioral intentions and behavioral goals by reviewing the relevant literature. Additionally, we outline our study for empirically examining the discriminant validity of these constructs. Finally, the results of the study are discussed as well as the limitations and implications for theory and practice.

LITERATURE REVIEW

TAM is an extended version of the TRA framework that was adapted to a technology adoption context (Davis et al., 1989). In our literature review, we reviewed studies which have operationalized behavioral intentions over a 15-year period, from acknowledged top IS journals¹ which yielded a sample of 52 studies. While this review was not exhaustive, it does give a good indication of the use of behavioral intentions in IS research (see Table 1).

Table 1: Sample of Articles Measuring Behavioral Intention

Article	Context	Article	Context
(Karahanna, Straub, & Chervany, 1999)	Adopt/experiment	(Chang & Cheung, 2001)	Use
(Saade & Bahli, 2005)	Use	(Hsu & Lu, 2004)	Use
(Lai & Li, 2005)	Use	(Hu, Clark, & Ma, 2003)	Use
(Moon & Kim, 2001)	Use	(Wixom & Todd, 2005)	Use
(Agarwal & Karahanna, 2000)	Use	(Chau & Hu, 2002b)	Use
(Koufaris, 2002)	Return/unplanned purchase	(Hu, Chau, Sheng, & Tam, 1999)	Use
(AbdulGader & Kozar, 1995)	Purchase	(Van der Heijden, 2004)	Revisit
(Chen, Gillenson, & Sherrell, 2002)	Use	(Chin, Marcolin, & Newsted, 2003)	Use
(Chen et al., 2002)	Purchase		
(Vijayarathy, 2004)	Use	(Ong, Lai, & Wang, 2004)	Use
(Pennington, Wilcox, & Grover, 2003)	Purchase	(Agarwal & Prasad, 1998)	Use
(Chau & Hu, 2001)	Use	(Venkatesh, 2000)	Use
(Venkatesh & Davis, 1996)	Use	(Hardgrave, Davis, & Riemenschneider, 2003)	Use
(Venkatesh, Speier, & Morris, 2002)	Use	(Hong, Thong, Wong, & Tam, 2001)	Use
(Agarwal & Prasad, 1998)	Use	(Venkatesh & Davis, 2000)	Use
(Bagchi, Kanungo, & Dasgupta, 2003)	Use	(Gefen et al., 2003)	Use
(Lou, Luo, & Strong, 2000)	Use	(Venkatesh & Morris, 2000)	Use
(Amoako-Gyampah & Salam, 2004)	Use	(Plouffe, Hulland, & Vandenbosch, 2001)	Adopt
(Bhattacharjee, 2001a)	Continuance	(Van der Heijden, 2003)	Use/Visit
(Bhattacharjee & Premkumar, 2004)	Continuance	(Van der Heijden et al., 2003)	Purchase
(Chau & Hu, 2002a)	Use	(Agarwal & Prasad, 1997)	Use
(Lucas & Spittler, 2000)	Use	(Bhattacharjee, 2001b)	Continuance
(Harrison, Mykytyn, & Riemenschneider, 1997)	Use	(Hsu & Chiu, 2004)	Experiment/Use

¹ We used the journal ranking list which is available at www.aisnet.org as guide for the top 10 IS journals.

Table 1 cont.

(Venkatesh, Morris, Davis, & Davis, 2003)	Use	(Riemenschneider, Harrison, & Mykytyn, 2003)	Have web presence
(Agarwal & Prasad, 1999)	Use/Adopt	(Peace, Galletta, & Thong, 2003)	Piracy
(Brown, Massey, Montoya-Weiss, & Burkman, 2002)	Use	(Dishaw & Strong, 1999)	Use
(Garrity, Glassberg, Kim, Sanders, & Shin, 2005)	Use		

These articles show that behavioral intention has been applied in various contexts and time orientations. For instance, behavioral intention has been used in various contexts, including intention to adopt, continued use, experiment with, have a web presence, commit piracy, purchase, return, unplanned purchase, revisit, and use an IS. Further, an inspection of the items used in these particular studies shows that some of the items explicitly state intentions as long-term (Van der Heijden et al., 2003) or short-term (Van der Heijden, 2004; Van der Heijden et al., 2003), while others give indications of specific time periods - e.g., 6 months (Brown et al., 2002; Harrison et al., 1997; Karahanna et al., 1999) and a year (Wixom & Todd, 2005). The TAM study, which is largely cited in the justification of behavioral intention, actually uses an adoption context of two weeks (Davis et al., 1989). Although many of these studies in behavioral intention research refrain from referencing a specific time orientation, here we review the implications (conceptually and operationally) that time orientation has on the use of behavioral intention in IS research.

Behavioral Intentions in IS Research

Fishbein and Ajzen (1975) introduced TRA, which included a modern definition of intentions. According to them, behavioral intention “is a measure of the strength of one's intention to perform a specified behavior” (Fishbein & Ajzen, 1975, p. 288). They also proposed that the strength of the intention-behavior relationship is theorized to diminish over time. More specifically, “given that intentions are subject to change between the time of intention measurement and behavioral performance, one would expect the intention-behavior correlation to diminish with increased elapsed time” (Fishbein & Ajzen, 1975, p. 370). The correlation of intention to behavior is dependent on the intention's time orientation in relation to the behavior. Therefore, it is important to distinguish the difference between immediate intentions and longer-term goals.

Unfortunately, few studies in IS research consider the time orientation. However, some researchers have avoided the possibility of this inference by measuring the observed intention-behavior correlation (e.g., Venkatesh & Davis, 2000). In this study, the influence that time orientation has on the use of behavioral intention in the context of e-Commerce is examined. The term ‘behavioral goals’ represents the longer-term goals that are theorized to have less predictive ability for actual behavior. Next, the distinction between behavioral goals and behavioral intentions is reviewed.

Behavioral Goals

Goals are “desired states one aims to attain” (Custers & Aarts, 2005). A behavioral goal, therefore, would be the desire to behave in a specific way. Warshaw and Davis (1985a, p. 600) define behavioral goals as follows:

As formulated by Fishbein and Ajzen (1975), behavioral intention is the immediate psychological determinant of purely volitional behavior. Therefore, it does not apply when the probability of performing a behavior that is not consciously attempted is greater than 0.0 (e.g., habits) or when the probability of performing a behavior that is consciously attempted is less than 1.0 (e.g., behavioral impediments). The intention model is routinely, although inappropriately, applied in contexts where habits or impediments are operative (Warshaw et al., in press). We shall refer to behaviors where lack of ability, lack of opportunity, habits, or environmental impediments prevent the performance of attempted behavior as behavioral goals.

Similar conceptualizations of this concept have been labeled behavioral expectations (Warshaw & Davis, 1985a) and desires (Perugini & Bagozzi, 2001).

The Model of Goal Directed Behavior (MGB) is an extension of the TPB which considers behavioral volitions in the context of purposive behavior, the pursuit of a goal (Perugini & Bagozzi, 2001). According to Perugini and Conner (Perugini & Conner, 2000, p. 705), “most behaviors are functional to the achievement of an overarching goal.” MGB introduces desire, a construct which “represent[s] the motivational state of mind wherein appraisals and reasons to act are transformed into a motivation to do so” which is similar to Warshaw and Davis’s (Warshaw & Davis, 1985a, 1985b) conceptualization of behavioral goals. These desired end states mediate the effects of attitudes, social norms, and other antecedents to behavioral intentions, thus becoming itself the most proximal determinant of behavioral intention (Perugini & Bagozzi, 2001; Perugini & Conner, 2000). Thus the theoretical and practical implications of the distinction between behavioral intention and behavioral goal are evident.

HYPOTHESIS DEVELOPMENT

An important distinction between behavioral goals and behavioral intention is the assumption of purely volitional behavior, which implies a deliberate intention to behave in a certain way. Goals, unlike intentions, do not assume pure volitional behavior. One may desire to attain the behavioral goal, but impediments may affect whether that behavioral state is achieved (Ajzen, 1991; Venkatesh & Brown, 2001; Warshaw & Davis, 1985a). For example, one may have a behavioral goal to adopt a technology (e.g., smart phone). However, high switching costs imposed by a contract impede the actual behavior. Thus, the expected behavior is never realized.

We posit that the time orientation of items used in the measurement of behavioral intention and behavioral goal is key to the distinction between these two constructs. In past IS research, the conceptual boundaries of behavioral intentions measures have been blurred. Some items which claim to measure “long-term” behavioral intention actually may measure behavioral goals. These long-term items cannot measure behavioral intention because pure volitional behavior cannot be assumed for longer durations. Over longer durations, behavior is likely to be influenced by impediments. Therefore, many of these long-term items probably measure behavioral goal rather than behavioral intention. Therefore, we hypothesize that time orientation in questionnaire items related to behavior distinguishes behavioral intentions with a short-term focus and behavioral goals with a long-term focus, and these two constructs are distinct.

Hypothesis: Behavioral Intentions and Behavioral Goals are distinct constructs.

METHOD

All research methods have strengths and weaknesses (Dennis & Valacich, 2001). McGrath (1982) proposed that all research methods could be evaluated along three dimensions. The first is generalizability with respect to populations and the second is realism for the participants. And the final dimension is the precision in the control and measurement of variables. It is not only difficult, but impossible, to maximize all three dimensions with any one study (McGrath, 1982). Given that this research is focused on examining measurement items, we have emphasized internal control and precision. This study utilizes a laboratory experiment. Analysis was conducted using structural equation modeling (SEM) with EQS 6.1 software.

Measurement Items

In order to test the discriminant validity of behavioral intentions and behavioral goals, items were developed to represent three different time orientations for the adoption of a website: 1) website use (no time distinction; e.g., Venkatesh & Morris, 2000), 2) the *behavioral goal* of establishing a long-term relationship with a website (e.g., continuance or revisit), and 3) short-term *behavioral intention* to use the website for an impulse purchase (e.g., impulse purchases - e.g., Koufaris, 2002; Parboteeah, Valacich, & Wells, 2009). All measures are intended to represent a reflective relationship with the construct of interest (Jarvis, Mackenzie, & Podsakoff, 2003). These constructs were chosen with the deliberate attempt to keep the context of the constructs constant. All of these constructs are manifest in an eCommerce context with a website. Therefore, the variations of responses from participants can reasonably not be linked to the object of the intention (i.e., website versus some other type of technology), but the time orientation.

Instrument Development and Pilot Studies

The development of the psychometric instrument measuring the constructs involved in this study followed the following process: item generation, factor analysis, reliability analysis, and validity analysis. Two separate and independent samples (not included here) were used in this process. An exploratory data analysis was performed on the first sample and the second sample was used to confirm the results of the first (Byrne & Stewart, 2006). As the first step, a bank of items was generated that could potentially measure the constructs of interest. The first sample of 395 undergraduate students was used for exploratory analysis and a second sample of 275 undergraduate and graduate students was used to confirm the results of the first sample. Results from these samples indicate that the instrument is psychometrically sound. The items that resulted from this development can be found in the Appendix. Further evidence is also provided here.

Variance Manipulations

Website treatments were created for the purpose of this study. The website represented a fictitious company selling t-shirts - Pac10-tees.com. As this study was used to determine the discriminant validity of constructs related to behavior, treatments were developed that were expected to influence such intentions and goals to provide sufficient variance in these variables. This study employed a 2 (high/low visual appeal) x 2 (high/low website functionality) between-subjects design. Visual appeal was manipulated in the website treatment by having a high/low level of eye-pleasing and professional features. A screen shot of this manipulation is available in Figure 1. Website functionality was manipulated with a 3- to 5-second download delay (present/absent). Manipulation checks of these manipulations supported that participants perceived a significant difference between these conditions.

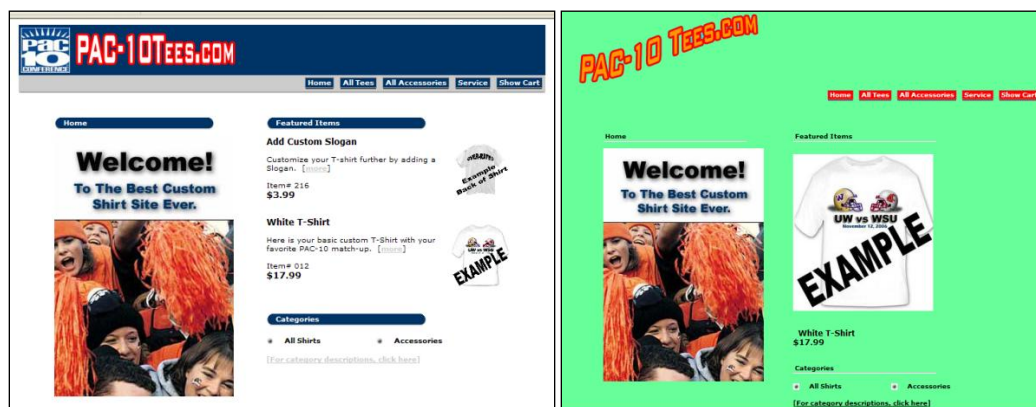


Figure 1: Screen Shots of Web Interfaces

Participants and Task

The subject pool for this experiment consisted of 458 college undergraduate students from various management information systems courses (upper and lower divisions). The average age of the subjects was 20.54 and there were 302 (62.58%) men. According to the Pew Internet & American Life Project (Jones & Fox, 2005), Internet users are between 18 and 32 years old and this segment of consumers represents one of the largest that actively engages in online shopping. Thus, the students were deemed appropriate for this study. Students received course credit - approximately 1% of their final grade - for participating in this study.

Subjects were briefed on the procedures of the experiment and participated in an initial survey that gathered basic demographic information. The subjects were then randomly assigned to website treatments. A scenario-based task was used in conjunction with the websites of a fictitious organization. The participants were given a scenario designed not only to expose them to various aspects of the website and increase the realism of the experience, but also to search for and purchase a specific item. After exposure to the treatment, subjects completed a survey instrument.

Measurement Model

Table 2 reports an assessment of the measurement model for the three constructs. The reliability analysis for the constructs used the Cronbach alpha and the composite reliability scores calculated from standardized factor loadings (Werts, Linn, & Joreskog, 1974). Convergent validity was assessed by examining the factor loadings in SEM and the average variance extracted (AVE) of each construct (see Table 3). Discriminant validity was assessed by comparing the AVE of each construct with the squared correlation with other constructs. Convergent validity, discriminant validity, and reliability of the measurement instruments were demonstrated in this sample. Also, the measurement model demonstrated good fit.

Table 2: Summary of Measurement Model Statistics

Construct		Item	Standard Loadings	Composite Reliabilities	Alpha
Short-term Intention		STI1	.914	0.955	.954
		STI2	.958		
		STI3	.935		
Behavioral Goal		BG1	.896	0.908	.908
		BG2	.855		
		BG3	.877		
Intention to Use		BI1	.980	0.988	.988
		BI2	.989		
		BI3	.978		
Fit Statistics					
X ² / df	83.2/ 24		SRMR	.024	
GFI	.962		CFI	.990	
AGFI	.929		RMSEA	.073(.056,.091)	

Notes: The comparative fit index (CFI), the root-mean-square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) are used to evaluate the fit of the measurement and structural models presented in this analysis. The criteria used to evaluate model fit will be that CFI values must be .95 or higher, SRMR values must be .08 or lower, and the RMSEA values must be .08 or lower (Hu & Bentler, 1999). Composite reliabilities should be above 0.70 (Hair, Anderson, Tatham, & Black, 1998). Factor loadings showed that the threshold of 0.707 was met for convergent validity (Chin, 1998; Hair et al., 1998; Segars, 1997). Cronbach alpha should be above 0.70 (Nunnally & Bernstein, 1994).

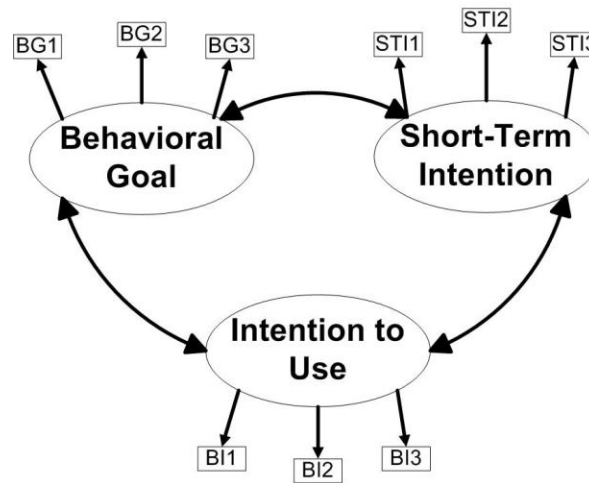
Table 3: EQS Estimated Squared Correlations and (AVE)*

	STI	BG	BI
Short-term Intention	0.876		
Behavioral Goal	0.497	0.768	
Intention to Use	0.530	0.623	0.965

Notes: * AVE figures are shown in bold along the diagonal. Each construct's AVE should be above .50 for convergent validity (Fornell & Larcker, 1981). Each AVE should be greater than the squared correlations with other constructs for discriminant validity (Anderson & Gerbing, 1988).

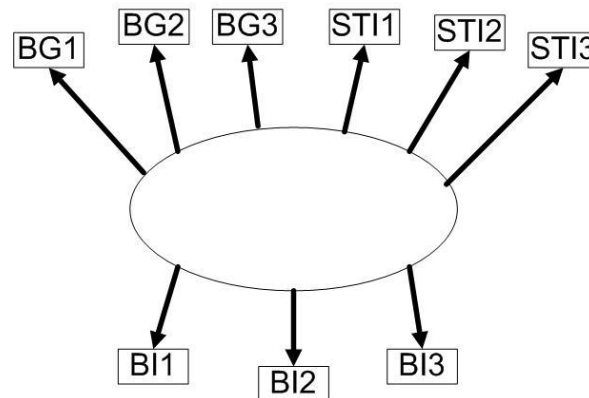
Hypothesis Testing

Hypothesis testing was conducted using a confirmatory factor analysis (CFA) with covariance-based structural equation modeling to compare the different factor structures. The possible factor structures are 1) that all observed variables measure the same construct (one construct with 9 observed variables), 2) three distinct factors underlie the observed variables, or 3) two factors underlie the observed variables. Therefore, a series of CFAs were conducted for comparison purposes. The interpretation of the results was done by reference to the fit statistics (to determine if the observed data sufficiently supported the theoretical model imposed), χ^2 difference tests (appropriate for nested models only), and comparison of the Akaike Information Criterion (AIC) which was developed to compare fit across non-nested models (lower values signify a better fit). See Figures 2 and 3 and Tables 4 through 6 for the results of these CFAs.



Fit Statistics			
χ^2/df	83.2/24	SRMR	.024
GFI	.962	CFI	.990
AGFI	.929	RMSEA	.073(.056,.091)
AIC	35.20046		

Figure 2: CFA of 3 Factor Structure



Fit Statistics			
χ^2/df	1379.308/27	SRMR	.127
GFI	.587	CFI	.764
AGFI	.311	RMSEA	.331(.316, .346)
AIC	1325.30821		

Figure 3: CFA of Single Factor Structure

By conducting a χ^2 difference test of the above nested models, we see that the $\Delta\chi^2$ between the nested models is 1296.07 with Δdf of 3. This is significant $p > .0001$ (Baker, 2000). We can conclude that these observed variables are most appropriately (according to this sample) modeled with three separate and distinct constructs. This is also supported by the AVE analysis in Table 3. Thus, these results support our hypothesis.

The above figures explicitly test our hypothesis. The following tables summarize the results for 3 additional CFAs which can be used to rule out alternative explanations of the above results by inference and to provide further support for our hypothesis. By examining the possible pairings of the three underlying factors, we can infer that no one construct is driving the poor fit seen in Figure 3. Also, a comparison of the AIC fit statistics shows that these pairings (Tables 4-6) result in poorer fit than the three-factor CFA.

Table 4: CFA of Single Factor Structure (BI and STI)

Fit Statistics			
X²/df	921.627/9	SRMR	.146
GFI	.623	CFI	.792
AGFI	.121	RMSEA	.471(.445,.496)
AIC	903.62723		

Table 5: CFA of Single Factor Structure (BI and BG)

Fit Statistics			
X²/df	417.503/9	SRMR	.107
GFI	.755	CFI	.895
AGFI	.428	RMSEA	.315(.289, .341)
AIC	399.50293		

Table 6: CFA of Single Factor Structure (BG and STI)

Fit Statistics			
X²/df	538.947/9	SRMR	.126
GFI	.693	CFI	.801
AGFI	.283	RMSEA	.359(.333, .384)
AIC	520.94749		

RESULTS

Results indicate that there is a distinction between behavioral intentions and behavioral goals based on the way items are operationalized. The different time orientation of the items included in this study shows a representation of discriminant factors.

DISCUSSION AND CONCLUSIONS

The goal of this research was to distinguish between behavioral intentions and behavioral goals. In this article, we provide support for the conceptual difference between behavioral intentions and behavioral goals. Further, the results of this study support the empirical distinction between these two constructs.

The results of this study provide two key insights. As evidenced in the literature review, the intention-behavior relationship is often taken for granted. Some researchers specify the time orientation when using behavioral intention, but some researchers fail to do so. The results of this study clearly indicate that researchers must be careful in faithfully applying the correct conceptual definition with the appropriate operationalization. In the current study, the distinction between behavioral intentions and behavioral goals was tested and obvious in an eCommerce context, stressing the need for researchers to specify the time orientation of behavioral intention in their studies. In the context of eCommerce, various impediments are existent, such as the availability of alternative products or better deals that might affect the occurrence of the actual behavior. Therefore, we recommend that researchers use caution in operationalizing the time orientation of their items. For example, the use of behavioral intentions should reference relatively short time frames, as opposed to behavioral goals, in the context of eCommerce research unless the researchers are specifically studying continued use, revisit, or customer loyalty.

Our results also have implications for online retailers or e-retailers. At various websites (e.g., Amazon.com), online users have the option of placing items they really want, but cannot purchase at the present time, in a wish list, with the intention of later acquiring the items. Online marketers should offer attractive incentives on these particular items in a timely manner as the longer an item is in the wish list, the lower the probability that the consumer will buy it. Thus, to increase the likelihood that an actual purchase will occur, the marketer should offer attractive incentives that would lead to the consumer buying the product immediately, instead of putting it in a wish list.

As with any study, this study is not without limitations. First, the study involves the use of students as well as scenarios in an experimental setting. This controlled setting limits the generalizability of our findings. Thus, there

is a need to replicate this study with differing samples in more natural settings to increase the generalizability of the results. In this study, we manipulated two variables; namely, visual appeal and website functionality, to obtain sufficient variance across the variables. However, we did not test the effects these variables had on the dependent variables as this was beyond the scope of the current study. Future research should study the effects of various website factors on these dependent variables.

While the results of our study have important implications, it also points to the need for future research. Future research should examine other types of behavioral intention, not only under the umbrella of TAM, but using other theoretical foundations. For instance, Bhattacharjee (2001b) studied IS continuance intention using the expectation confirmation theory as foundation. Further, as mentioned, the online retail context offers various impediments that can affect the intention-behavior relationship. Thus, future research should study these impediments that lead to changes in intention as well as the enabling factors that will increase the occurrence of the behavior when the antecedent is either behavioral intention or behavioral goal.

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APPENDIX: SURVEY MEASUREMENT SCALES

Short-Term Intention

- STI1: How likely is it that you would consider using this website for an impulsive, one-time purchase?
- STI2: How likely is it that you would use this website for a sporadic, unplanned purchase?
- STI3: Even though the occasion may be few and far between, I could see myself using this website for an unexpected purchase.

Intention to Use

- BI1: Suppose you were in the market for one of these products. How likely would you be to purchase through this website?
- BI2: Suppose you were in the market for one of these products. How likely would you be to do business with Pac10-tees.com via its website?
- BI3: If you were in the market for one of these products, what is the likelihood that you would use this website?

Behavioral Goal

- BG1: I would like to be in a long-term customer relationship with this company.
- BG2: Engaging in a long-term relationship with this organization would prove beneficial to me as a consumer.
- BG3: Assuming that I was interested in one of their products, I could see myself initiating a long-term relationship with this organization.

NOTES