An Exploration of Marketing Students' Perceptions of Twitter as a Pedagogical Tool

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ABSTRACT

A challenge that instructors face in using social media platforms as teaching tools is students' acceptance of such technology in an educational context. Using the Technology Acceptance Model as a theoretical foundation, this study explores students' perceptions of the use of Twitter as a pedagogical tool in the marketing classroom. Findings show that its perceived usefulness as an educational instrument and its perceived enjoyment are the two strongest predictors of students' attitude towards Twitter. Furthermore, perceived ease of use, self-efficacy and Twitter anxiety were important predictors of students' acceptance of the technology. Implications for marketing educators interested in incorporating innovative ideas, and particularly social media platforms such as Twitter, into their pedagogy are discussed

Keywords: Technology, Social Media, Twitter, Pedagogy

INTRODUCTION

Social media platforms such as Facebook, Twitter and YouTube have had a transforming impact on the way people communicate, collaborate and build communities. According to the Pew Research Center & American Life Project, 69% of adults use social networking websites (Perrin 2015). Realizing their boundless potential, the onset of social networking technologies has created greater opportunities for businesses to instantaneously engage with consumers and offered them more innovative ways to create and deliver value for their stakeholders. Currently, 73% of Fortune 500 companies are active on Twitter while 66% of them have corporate Facebook pages (Barnes, Lescault, & Wright, 2013). As businesses expand their adoption of social media, demand for business graduates with relevant social media training has also risen. This trend has led many colleges of business to update their programs to incorporate elements of social media into their curricula with the purpose of developing students' digital networking skills (Mackay, 2010).

The push toward incorporating social media as a learning tool has become even more pressing in light of the 2013 accreditation standards of the Association to Advance Collegiate Schools of Business (AACSB). More specifically, Standard 13 emphasizes the importance of employing teaching methods that encourage active student involvement in the learning process (AACSB 2013 Business Accreditation Standards, 2013). Given its highly interactive nature, social media represents one such method. College students are at the forefront of social media use. A recent study reports that 93% of students use at least one social media platform on a daily basis (Smith & Caruso, 2010). This digital technology has become an integral component of students' lives and identities and represents a predominant means through which they communicate and connect with others (West, Moore, & Barry, 2015). Hence, the use of social media in the classroom has become a compelling alternative as a tool to enhance student engagement. These developments have left business educators and particularly marketing professors with the challenge of exploring the best practices of utilizing social media as a pedagogical tool.

Amongst the various social media platforms being integrated in the learning process, Twitter has been receiving a growing interest from educators (Rinaldo, Tapp, & Laverie, 2011). Twitter is a highly popular social networking site with more than three hundred million monthly active users (Aslam 2017) and has recently been used in marketing classrooms aimed at skill-building and increasing student engagement and interaction. In the limited but growing body of literature on the use of Twitter in education, most research has focused on exploring the benefits and opportunities associated with its use in the classroom (Rinaldo, Tapp, & Laverie, 2011; Lowe & Laffey, 2011; West, Moore, & Barry, 2015). However, no research has comprehensively investigated the determinants of students' acceptance of Twitter in the teaching-learning process. This is important because similar to other new technology introductions, user adoption and acceptance are critical to their success. In the case of introducing Twitter as an educational tool, students play an active role in the process as they become co-creators of their own learning experience. As a result, the extent to which students are willing to use Twitter in the classroom is critical to its

success in fostering engagement and augmenting student learning.
Given its increasingly influential role in education, more empirical research is needed to address the challenges associated with the use of technology and particularly social media as an educational tool from the students' perspective. The current study addresses this gap in the literature and contributes to this growing body of research by focusing on assessing the determinants of students' receptiveness to the use of Twitter in the marketing classroom. The results of this study provide marketing educators with valuable insight into the factors influencing students' acceptance of social media as a pedagogical tool. A better understanding of these factors is expected to facilitate the process of persuading students to embrace technologies identified as useful for their learning. Using an extended form of the Technology Acceptance Model, this study presents an empirical investigation into the antecedents and consequences of students' attitude towards using Twitter as a pedagogical tool in marketing courses.

THEORETICAL BACKGROUND & HYPOTHESES

Social media technology is defined as "web-based and mobile applications that allow individuals and organizations to create, engage, and share new user-generated or existing content, in digital environments through multi-way communication" (Davis III, Deil-Amen, Rios-Aguilar, & Canche, 2011). Hence, social interactions and information sharing are at the heart of social networking. The emergence of social media platforms such as Facebook, Twitter and YouTube has created boundless opportunities for collaboration, information creation and idea sharing. In an attempt to more effectively connect with students while equipping them with the skills required for the job market, many marketing educators have jumped on the bandwagon of educational technologies incorporating elements of social media into their pedagogy (Tuten & Marks, 2012).

While Facebook may be the most popular social networking service, Twitter has more often been the platform of choice for educational purposes (Junco, Heibergert, & Loken, 2011). Twitter is a micro-blogging social media website that allows networking and the exchange of information through the posting of short messages known as tweets. These messages cannot be more than 280 characters in length but may include links to articles, photos, videos and other websites. Twitter also allows users to group relevant tweets together through the use of hashtags. Hashtags are user created keywords that facilitate the search for specific topics. Twitter may be used through the Twitter website in addition to smartphone and tablet applications. All the information exchange on Twitter takes place in real time, which makes the platform an attractive one for both professional and social networking (Dunlap & Lowenthal, 2009). Hannay and Fretwell (2011) predict that the use of applications such as instant messaging and Twitter in an academic context will soon be common practice at institutions of higher education.

Recent research has presented a number of pedagogical advantages for using Twitter in the classroom. Junco, Heibergert and Loken (2011) suggest that Twitter may be used in a classroom setting to generate interest in course topics, to share material and to communicate with students. Twitter may also be used to motivate students to become more engaged by sharing their own input with the instructor and other students. According to the results of their study, using Twitter in the classroom improved communication between instructor and students, encouraged active learning and allowed for immediate feedback. Similarly, Croxall (2010) and Wankel (2009) emphasized the role of Twitter in facilitating class discussions.

Rinaldo, Tapp and Lavarie (2011) suggested that Twitter allows educators the opportunity to create an experiential learning environment, encouraging more in-depth learning as students become more involved with the course material as opposed to only thinking about it in a traditional classroom setting. Furthermore, Twitter may offer other educational benefits such as responding to students in a timelier manner, encouraging students to write concisely, providing students an opportunity to connect with professionals in their field and allowing for informal learning (Dunlap & Lowenthal, 2009). Marketing educators in particular may also find using Twitter a suitable opportunity to teach students the social media and communication skills that they may use in their profession.

Despite the numerous benefits and multidimensional opportunities offered by Twitter, realizing its full potential in the educational process faces multiple challenges. As with other social networking applications in education, some students may not yet be accustomed to knowledge sharing through social media in a learning context (Rinaldo, Tapp, & Laverie, 2011). Moreover, students may perceive the use of social media in the classroom as an overload that represents additional time and effort constraints (Hung & Yuen, 2010). Other impediments that might limit the effectiveness of Twitter as a pedagogical tool include the degree to which students are familiar with its use (West, Moore, & Barry, 2015; Rinaldo, Tapp, & Laverie, 2011). Lin, Hoffman and Borengasser (2013) reported that

students' lack of engagement in using Twitter may be attributed to their limited literacy or experience with the microblogging service. Similarly, Junco, Elavsky & Heiberger (2013) found that adoption rate differences between students may represent a barrier to the successful use of Twitter in an educational context. In spite of the myriad of potential pedagogical benefits that Twitter may offer, these challenges underscore the importance of a better understanding of students' perceptions of Twitter in addition to their readiness and willingness to accept the platform as a learning instrument.

While there is a growing number of marketing educators who are using Twitter as an educational tool, there is little or no research that has captured students' response to the use of Twitter in a classroom setting. In the present study, we use an extended form of the Technology Acceptance Model as a theoretical foundation to examine students' perceptions of Twitter's ease of use, usefulness and actual usage in the context of a marketing course. We also explore other variables that may shape students' attitude towards the use of Twitter such as technology anxiety, self-efficacy, perceptions of enjoyment and self-image congruence (see figure 1).

The Technology Acceptance Model (TAM) was created by Davis (1989) and then further developed by Venkatesh and Davis (1996). It finds its roots in the theory of reasoned action (Fishbein & Ajzen, 1975). This theory suggests that behavior is a function of one's attitudes towards and beliefs about the behavior. More specifically, the TAM suggests that usage of an information system is predicted by both behavioral intentions and attitude toward the technology. Attitudes in turn may be predicted by two core beliefs; the perceived ease of use and perceived usefulness of the technology (Venkatesh & Davis, 1996). Perceived ease of use refers to the degree to which an individual believes that using a given system is effortless (Davis, 1989). Perceived usefulness is described as the extent to which one believes that using a system enhances their performance (Davis, 1989). It reflects the utility that an individual perceives in using the system. In the context of using Twitter for a pedagogical purpose, perceived ease of use describes the extent to which students perceive it as simple to use while perceived usefulness signals the degree to which it is believed to enhance their performance in the classroom.

Attitude is an important construct in the TAM as it represents one's evaluation of a given technology (Davis, 1989). It also affects the extent to which one is prepared for, accepts and behaves towards the said technology (Selwyn 1997). Prior empirical evidence supports the role of attitude in shaping technology usage and acceptance (Phua, Wong, & Abu, 2011). In the context of this study, Twitter usage is defined as the extent to which students utilized the platform to post course-related material. It is plausible to argue that the more positive one's attitude is toward a given technology, the more likely one is to adopt and use this technology. Hence, we expect that students' attitudes towards Twitter will affect the extent to which they use it in the course.

H1: Students' attitude toward Twitter usage as a learning tool will have a positive effect on their actual use of Twitter in a Marketing course.

Perceived ease of use and perceived usefulness represent the anchors of the TAM and there is considerable empirical evidence in support of their effect on attitude towards the technology (Shih, 2004; Venkatesh, Speier & Morris, 2002; Venkatesh & Davis, 1996). The more an individual perceives a system as easy to use or useful, the more likely is he or she to hold a positive attitude toward that system. Moreover, perceived ease of use is also known to be a determinant of perceived usefulness as an easy to use system should enhance the perceptions of usefulness of such system (Venkatesh & Davis, 1996; Chau, 1996). These arguments lead to the following hypotheses:

H2: Twitter's perceived usefulness as a learning tool will have a positive effect on students' attitude towards using Twitter in a Marketing course.

H3: Twitter's perceived ease of use will have a positive effect on students' attitude towards using Twitter as learning tool in a Marketing course.

H4: Twitter's perceived ease of use will have a positive effect on Twitter's perceived usefulness a learning tool in a Marketing course.

Even though the TAM has been shown to be a highly parsimonious model with high validity, to better explain technology acceptance, researchers expanded and further developed the TAM to include other constructs that may

be of additional value in predicting the variance in attitudes and usage behavior. These constructs include self-efficacy, technology anxiety, self-image congruence and perceived enjoyment (Anton, Camarero, & Rodriguez, 2013; Venkatesh, 2000; Venkatesh & Davis, 1996).

Self-efficacy is defined as "one's beliefs and expectations regarding one's ability to perform a task required to achieve specific outcomes" (Bandura, 1997). It is a construct that reflects one's belief that he or she can perform a given task. In the context of Twitter, self-efficacy is concerned with a student's belief in his or her ability to successfully use the social media platform for the purpose of satisfying course requirements. Prior research in the area of information systems has found that self-efficacy has a positive and significant influence on perceived ease of use (Venkatesh & Davis, 1996). These results were also replicated in other contexts such as internet self-efficacy and the perceived ease of use of online information search and online shopping (Joo et al. 2000; Eastin, & LaRose 2000). Hence, it is reasonable to assume that the more confident a student is in his or her ability to use Twitter, the easier to use they will perceive Twitter to be.

H5: Twitter self-efficacy will have a positive effect on Twitter's perceived ease of use in a Marketing course.

Anxiety was incorporated into the TAM to capture the emotional dimension of technology use. The construct represents a negative emotional reaction to the use of a given system (Venkatesh, 2000). Prior research has mainly placed emphasis on anxiety related to the use of computers. Venkatesh (2000) defines computer anxiety as "an individual's apprehension, or even fear when she/he is faced with the possibility of using computers." We extend this definition and apply it to anxiety experienced in response to the use of Twitter. Hence, Twitter anxiety reflects the apprehension and uneasiness a student may experience when considering the use or when actually using the platform. This anxiety may be a result of a lack of knowledge of the system but it can also result from fear of sharing information online. For example, Liu (2010) has shown that people may experience anxiety when posting content online. Anxiety has been shown to influence attitudes, intentions, behavior and performance. Specifically, it has been shown to lower a system's perceived ease of use as it directs cognitive resources away from task completion (Venkatesh, 2000). It is thus expected that greater levels of expected anxiety experienced as a result of Twitter use will lead to lowering Twitter's perceived ease of use.

H6: Twitter anxiety will have a negative effect on the perceived ease of use Twitter in a Marketing course.

While the TAM has remained for many years the dominant theoretical foundation for explaining the adoption and usage of new technology, it has recently been criticized for only including utilitarian dimensions such as perceived ease of use and perceived usefulness as the main predictors of attitude and adoption intentions (Bagozzi, 2007). A number of researchers have argued for the importance of incorporating more hedonic adoption motives into the model (Anton, Camarero, & Rodriguez 2013). One important hedonic dimension that was incorporated into a revised form of the TAM is the extent to which using a system was perceived as enjoyable. Venkatesh (2000) defined perceived enjoyment as "the extent to which the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use". This construct may be of particular interest in the context of Twitter usage. The entertainment value that results from using a given system is expected to improve the attitude toward such system. Bruner & Kumar (2005) demonstrated that the perceived enjoyment of using handheld internet devices was an important predictor of attitude. In the context of using Twitter as a pedagogical tool, Chod, Caliendo & Much (2015) listed student enjoyment as one of the benefits of using Twitter. In line with a TAM that includes both utilitarian and emotional motives that shape attitude and adoption intentions, we argue that the extent to which students perceive the use of Twitter in the course as enjoyable will shape their attitude towards using Twitter. Hence, the following hypothesis is suggested:

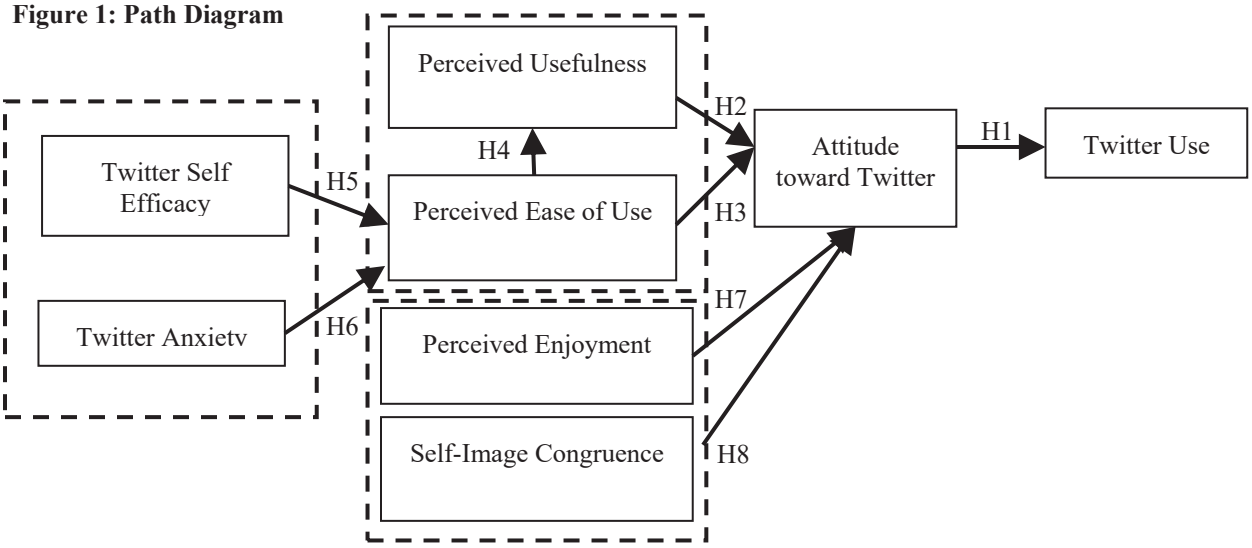
H7: Perceived Enjoyment of using Twitter as a learning tool will have a positive effect on students' attitude toward using Twitter in the context of a Marketing course.

Recent research on innovation and technology adoption has drawn attention to the importance of the self-image congruence construct. Self-image congruence results from the subjective comparison of one's self image and the image he/she has of the product and its typical user (Cowart, Fox, & Wilson, 2008). The extent to which there is a match between the conceptualization one has of him/herself and the product-user image determines the level of self-image congruence (Anton, Camarero, & Rodriguez, 2013). Self-image congruence was shown to influence preferences, purchase motivations, attitudes and intentions towards new products (Kang, Hong, & Lee, 2009).

People have a preference for products whose images are more consistent with their own self-image. This may be explained by their need for "self-consistency and self-esteem" (Cowart, Fox, & Wilson, 2008). Applying this framework to the adoption of Twitter as a learning tool, it may be argued that students who perceive Twitter and the typical Twitter user to be more compatible with their own self-image will express a more positive attitude toward the social media platform. Hence, we make the following hypothesis:

H8: Self-Image congruence will have a positive effect on attitude toward Twitter as a learning tool in a Marketing course.

Figure 1: Path Diagram



METHOD

Study Participants and Descriptives

Over the course of four consecutive semesters, Twitter was used as a learning tool in eight different sections of three marketing courses (Consumer Behavior, Market Strategy and Global Marketing) taught by the same instructor. Students were asked to create an account on Twitter, follow the course instructor, read the content that the instructor posted and tweet their comments about the posted content. The instructor posted links to business articles and information that described events in the marketplace. This content represented an application of the topics discussed in class. One tutorial was given at the beginning of each course to explain Twitter usage and discuss expectations. All students who agreed to participate in this optional Twitter activity earned the same number of points toward their class participation grade regardless of frequency of participation. A survey instrument was developed to assess the constructs in our model and was administered at the end of each course. One hundred ninety-three students participated in the study by completing the survey. One hundred and three females (55%) and eighty-seven males (45%) completed the online self-administered questionnaire in the last week of class. The participants' average age was 24. The questionnaire contained the completion instructions and the measures. To test whether demographic characteristics had an effect on participants' responses, a multivariate analysis of variance was conducted. Results indicated no significant differences in terms of age, sex or education level on any of the constructs in the model.

Measures

All the variables in the proposed model were assessed using measures and scales that were adapted from prior studies and modified to fit the context of the current research. For each construct, multi-item, seven-point Likert scales were used. All items were anchored by *strongly disagree* and *strongly agree* with the exception of the scale measuring actual behavior, which used items that were anchored by *not at all* and *all the time*. Higher scores represent a higher level of each variable. The three items used to measure perceived usefulness (Cronbach's α = .90) and the three items perceived ease of use (Cronbach's α = .97) were adapted from Davis (1989). Four items were used to measure attitude toward Twitter (Cronbach's α = .97) and were adapted from Taylor & Todd (1995). Perceived enjoyment (Cronbach's α =.99) was measured using three items while self-image congruence (Cronbach's α =.96) was assessed using two items. Both scales were a modification from Anton, Camarero and Rodriguez

(2013). The four items used to measure self-efficacy (Cronbach's α =.96) were adapted from the scale used by Wang, Ertmer, & Newby (2004). Twitter anxiety (Cronbach's α =.94) was captured using three items modified from the scale used by Liu (2010). Finally, two items were used to measure actual behavior (Cronbach's α =.92; Spearman-Brown statistic = .92) and were adapted from the scale used by Moon & Kim (2001).

Measurement Model

An exploratory factor analysis (EFA) was first conducted to test for the unidimensionality of constructs. Testing one scale at a time and using an eigenvalue of 1.0 as a cut-off point, only one factor was extracted for each variable, supporting the claim that each scale had only one underlying factor. A confirmatory factor analysis (CFA) using SPSS AMOS 22 Structural Equation Modeling software was then used to evaluate the qualities of the measurement scales and to assess the properties of the theoretical factor structure. As an additional indicator of unidimensionality of constructs, all items loaded as postulated (Gerbing & Anderson, 1988).

While the overall model was significant (X^2=319.7; df=219; p= .00), Hooper, Coughlan and Mullen (2008) suggest that X^2 is not a reliable index of model fit as it tends to be sensitive to multivariate normality and to sample size. Alternatively, the normed chi-square (X^2/df =1.16), which is below the 3.0 level recommended by Hu et al. (1999) was used. Model fit was assessed using the indicators recommended by Bagozzi and Yi (2012). The comparative fit index (CFI) = 0.98, the non-normed fit index (NNFI) also known as the Tucker Lewis index (TLI) = 0.98, the standardized root mean squared residual (SRMR) = 0.03 and the root mean square error of approximation (RMSEA) = 0.05. Observed values for these indices were all within the range of recommended levels for a good model (Hu & Bentler 1998, 1999). Table 1 shows the observed vs. recommended model fit values.

Table 1: Measurement Model Fit Indexes

Model fit index	Model results	Recommended values
Normed Chi-square	1.16	≤ 3.00
Comparative fit index (CFI)	0.98	> 0.95
Non-normalized fit index (NNFI)	0.98	> 0.95
Root mean squared residual (RMSR)	0.03	≤ 0.08
Root mean squared error of approximation (RMSEA)	0.05	≤ 0.06

The model was then tested for convergent and discriminant validity of constructs. Gallagher, Ting & Palmer (2008) suggest the use of factor loadings (standardized regression weights), average variance extracted (AVE) and reliability to assess convergent validity. As presented in Table 2, all the items loaded in the theorized direction, were statistically significant and the factor loadings were higher than 0.8, well above the 0.5 cutoff recommended by Hair, Black, Babin, Anderson, & Tatham (2006). Reliability was assessed using Fornell & Larcker's (1981) composite reliability (CR) formula. As shown in Table 2, composite reliability (CR) values ranged between 0.90 and 0.99 exceeding the 0.70 acceptable reliability benchmark (Bagozzi & Yi, 2012) indicating internal consistency. Convergent validity was further established by calculating average variance extracted values. Average variance extracted values for all the constructs ranged between 0.74 to 0.96 exceeding the recommended 0.5 level (Hair et al. 2006) further confirming the convergent validity of the constructs.

Two methods were used to assess discriminant validity. First, the average variance extracted by each construct was compared to all the inter-construct correlations. Results show that all AVE estimates were greater than all the squared inter-construct correlations establishing discriminant validity for the model (Fornell & Larcker, 1981). Average variance extracted estimates are presented in Table 2 and inter-construct correlations are shown in Table 3. Second, a chi-square difference test between an alternative constrained theoretical model and our hypothesized model was conducted. Dunn, Seaker and Waller (1994) suggest that evidence for discriminant validity exists if the chi-square difference value is statistically significant. We created an alternative constrained model in which all inter-construct correlations were assigned a value of one. The chi-squared difference between the models was 416.78 with 28 degrees of freedom, p<.001. Hence, the results of the two sets provide support for discriminant validity.

Structural Model

Hypotheses were tested using a structural equation model created using SPSS AMOS 22.0 statistical software program. Goodness of fit measures indicate an acceptable model fit to the data. (normed X^2= 2.05, df= 238, comparative fit index (CFI) =0.96, non-normed fit index (NNFI) = 0.96; standardized root mean square residual (SRMR) = 0.87 and root mean squared error of approximation (RMSEA) =0.07). Estimates for the completely standardized path coefficients are displayed in Table 4. In support of hypothesis one, results show attitude has a positive effect on actual Twitter usage behavior (H1; β= .41, p<0.01). The path from perceived usefulness to attitude was also supported (H2; β= .45, p<0.01). A direct effect of ease of use on attitude as predicted by hypothesis three was not supported by the data (H3; β= -0.04, p>0.05). However, the results do provide support to hypothesis four predicting a positive effect of ease of use on usefulness (H4; β= 0.59, p<0.01). In support of hypotheses five, self-efficacy increased ease of use perceptions (H5; β= -0.78, p<0.01). Further, as predicted by hypothesis six, Twitter anxiety had a negative effect on perceptions of ease of use (H6; β= -0.18, p<0.01). The results show support for hypothesis seven postulating a positive and direct effect of perceived enjoyment on attitude towards Twitter (H7; β=0.66, p<0.01). Lastly, the path from self-image congruence to attitude was not statistically significant (H8; β= -0.10, p>0.05). Hence, hypothesis eight was not supported by the data.

Table 4: Hypotheses Testing Results, Structural Paths

Paths	Hypothesis	Standardized Path Coefficient
Attitude ----------> Usage	H1	0.41*
Usefulness ----------> Attitude	H2	0.45*
Ease of Use ----------> Attitude	H3	- 0.04^{ns}
Ease of Use ----------> Usefulness	H4	0.59*
Self-Efficacy ----------> Ease of Use	H5	0.77*
Anxiety ----------> Ease of Use	H6	- 0.18*
Enjoyment ----------> Attitude	H7	0.66*
Self-Image Congruence ------> Attitude	H8	- 0.10^{ns}

*Coefficient is statistically significant at p<.01
^{ns} Indicates a non-significant coefficient p>.05

CONCLUSION

Within the context of an enhanced TAM as a theoretical foundation, we examined the determinants of students' attitude toward the use of Twitter in marketing classes. Based on data collected from one hundred ninety-three students enrolled in eight different sections of three marketing courses, we examined the relationships between students' perceptions (Twitter self-efficacy, anxiety, self-image congruence, enjoyment, usefulness, ease of use) and the outcome variables of attitude toward Twitter and actual Twitter usage. The results of the empirical tests provide support to the overall extended TAM. Furthermore, the results supported all the hypothesized relationships with the exception of H2 that suggested a direct effect of ease of use on attitude toward Twitter and H8 that hypothesized that self-image congruence would lead to a more favorable attitude toward Twitter. According to our model, a student's attitude toward the use of Twitter as a pedagogical tool in a marketing course is directly affected by the student's perception of usefulness and indirectly through perceptions of ease of use. It was also found to be positively affected by Twitter's perceived enjoyment but not by self-image congruence. Ease of use was found to be positively affected by Twitter self-efficacy and negatively affected by Twitter anxiety.

The findings of this study have significant implications for marketing educators. Results indicate that to facilitate the use of a social media platforms such as Twitter for learning purposes, it is critical for students to have a favorable

attitude toward the platform. To do so, it is important to increase students' perceptions of Twitter's usefulness to their learning experience. As such, it is advised that instructors communicate the benefits of using Twitter to students early on in the semester. These benefits include improved communications with the instructor and other students in the course, greater engagement with course content, enhancement of students' grade point average, in addition to career preparation through the opportunity to network with marketing professionals on Twitter (Rinaldo, Tapp, & Lavarie, 2011). Furthermore, to reinforce the usefulness of using Twitter, the instructor found it beneficial to forge a connection between the online discussion on Twitter and the discussions that take place in the classroom. Doing so made Twitter discussions more relevant and, therefore, emphasized the usefulness of the platform to students.

According to the results, enhancing students' perceptions of the ease of using Twitter do not have a direct effect on attitude favorability. This result may be attributed to the fact that a new technology is mainly adopted for the benefits and functionality it offers rather than its ease of use (Davis, 1989). However, this result should not diminish the importance of perceived ease of use. It is recommended that instructors invest in facilitating students' perceived ease of using Twitter. This is important because perceived ease of use has a strong and significant effect on perceptions of usefulness according or our results. This can be achieved by offering instructional tutorials early on in the semester, especially for students who are unfamiliar with the platform. These sessions may also help increase students' Twitter self-efficacy and reduce Twitter anxiety. Given that self-efficacy was found to improve ease of use perceptions while anxiety has the opposite effect, it may be beneficial to provide a certain period of time at the beginning of the semester for students to practice using Twitter. This practice period may be particularly beneficial for students who may not have the skills to use Twitter professionally and might experience unease due to using it. It is worthy to note that when dichotomizing the data, 19% of respondents in our dataset have expressed Twitter anxiety while 11% indicated that they do not perceive themselves as having the skills required to effectively use Twitter in the context of the course.

Although perceived usefulness was found to be a strong predictor of attitude toward Twitter as conceptualized by the TAM and confirmed by the results, in this study perceived enjoyment had a stronger effect on attitude. This result sheds more light on students' motivations in accepting a social media platform like Twitter as a learning tool. While it is important to select a platform that students perceive as useful for their learning experience, it is also essential that this platform is perceived as fun and enjoyable. When students perceive Twitter as useful to their learning experience and also enjoyable to use, this will improve their attitude towards it and consequently increase their actual use of the platform. This finding is consistent with recent research work that incorporated hedonic motivations in examining technology acceptance (Anton, Camarero, & Rodriguez, 2013).

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