

DETERMINANTS OF SPORT WEBSITE ACCEPTANCE: AN APPLICATION
AND EXTENSION OF THE TECHNOLOGY ACCEPTANCE MODEL

By

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To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation of
YOUNGJIN HUR find it satisfactory and recommend that it be accepted.

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Abstract

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The importance of the Internet to the success of sport organizations will continue to increase, making it essential to develop a better understanding of online sport consumption behavior. In order to understand online sport consumption behavior, theory based and comprehensive models need to be developed. To date, however, limited scholarly efforts have been made to examine sport consumers' adoption of sport-related websites. As a result, there is a lack of theoretical background that explains sport consumers' online decision-making processes.

Accordingly, the purpose of the present study was to develop a sport web acceptance model (SWAM) in which sport fans' decision-making processes regarding the use of sport-related websites are conceptualized. The proposed research model incorporated existing models of (a) the theory of reasoned action (TRA: Fishbein & Ajzen, 1975), (b) the technology acceptance model (TAM: Davis, 1989), and (c) a conceptual framework that examined theoretical relationships among involvement, commitment, and loyalty (Iwasaki & Havitz, 2004). The SWAM includes eight constructs in order to predict sport fans' use of sport-related websites: (a) sport involvement, (b) psychological commitment to a team, (c) perceived ease of use, (d)

perceived usefulness, (e) perceived enjoyment, (f) perceived trustworthiness, (g) intention to use a sport-related website, and (h) actual web usage behaviors.

Data analysis was conducted with 337 subjects who were enrolled at a large university in the Northwestern region. The psychometric properties of the SWAM were examined by conducting structural equation analyses. The measurement and the structural model fits were found to be acceptable. Hypothesis tests revealed that six of ten hypotheses were supported. A competing model was provided in order to examine the effects of sport fans' beliefs as mediating variables between sport-specific constructs, and behavioral intention and use. The analyses of the competing model revealed that perceived ease of use, usefulness, enjoyment, and trustworthiness can become potential mediating variables. In addition, moderating effects of hedonic and utilitarian groups and gender on the SWAM were examined. The SWAM is invariant across gender but showed different path coefficients across hedonic and utilitarian groups. Academic and practical implications and recommendations for future research were provided.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	iii
ABSTRACT.....	v
LIST OF TABLES	xi
LIST OF FIGURES	xii
CHAPTER ONE	
INTRODUCTION	1
Need for the Study	4
Purposes of the Study.....	5
Research Questions.....	6
A Proposed Model.....	7
Research Hypotheses	9
Significance of the Study	9
Limitations	10
Definition of Terms.....	11
Organization of the Dissertation	12
CHAPTER TWO	
LITERATURE REVIEW	14
Internet Usage.....	15
Review of Literature in the Sport Management Field	18
Theory of Reasoned Action (TRA).....	20
Attitude	21
Subjective norm	22
Belief.....	22
Behavioral intention.....	23
Behavior.....	23
External variables.....	24
Technology Acceptance Model (TAM).....	25

Perceived usefulness	27
Perceived ease of use	28
Perceived enjoyment.....	29
Perceived trustworthiness	30
TAM in online business literature.....	31
Involvement	37
Sport and leisure involvement	39
Psychological Commitment.....	42
Hedonic and Utilitarian Dimensions.....	46
Summary.....	48

CHAPTER THREE

RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT	49
Proposed Model	49
Research Hypothesis Development	50
Beliefs about a sport-related website and intention to use the website.....	50
Sport involvement and intention to use a sport-related website	52
Sport involvement and psychological commitment to a team	53
Sport involvement and actual website usage	54
Psychological commitment and intention to use a sport-related website .	54
Psychological commitment and actual website usage	55
Intention to use a sport website and actual website usage	55

CHAPTER FOUR

METHODOLOGY	56
Scale Development Procedures.....	56
Item generation	57
Sport involvement.....	57
Perceived ease of use and perceived usefulness	58
Perceived enjoyment.....	59
Perceived trustworthiness	60

Psychological commitment to a team	60
Hedonic and utilitarian dimensions	61
Field test.....	61
Pilot study	62
Samples of Main Study.....	63
Data Analysis Procedures	64

CHAPTER FIVE

RESULTS	69
Measurement Model Tests.....	69
Reliability of the Scales	71
Validity of the Scales	72
Structural Model and Hypothesis Tests	80
Indirect Effects within the Proposed Model	84
Development of a Competing Model.....	85
Indirect Effects within the Competing Model	90
Multi-Group Effects on the Sport Web Acceptance Model.....	91
Moderating effect of hedonic and utilitarian groups.....	91
Moderating effect of gender on SWAM.....	95
Summary of Results.....	98

CHAPTER SIX

DISCUSSION.....	100
A Study Overview.....	100
Sport Fans' Beliefs about Sport-Related Websites and Behavioral Intention	101
Perceived ease of use and intention	101
Perceived usefulness and intention.....	102
Perceived enjoyment and intention.....	104
Perceived trustworthiness and intention	104
Sport Involvement and Psychological Commitment to a Team, and Intention and Actual Web Usage.....	105

A Competing Model	106
Moderating Effects of Hedonic and Utilitarian Groups and Gender on SWAM	108
Implications of the Study	110
Practical implications.....	110
Academic implications.....	112
Limitations and Recommendations for Future Research.....	113
Conclusion	114
REFERENCES	116
APPENDIX.....	132
Distribution of Hedonic and Utilitarian Dimensions	132
Survey Instrument.....	134

LIST of TABLES

Table 1. Empirical Studies of the TAM	35
Table 2. Description of Participants.....	65
Table 3. Reliability of the Scales	72
Table 4. Means, Standard Deviations, Factor Loadings, and Critical Ratios of the Measure Items	75
Table 5. Correlations and Squared Correlations between Constructs.....	79
Table 6. Goodness-of-Fit Indexes of Measurement and Structural Models.....	80
Table 7. Indirect Effects within the Original Model	85
Table 8. Comparison between the Original Model and the Competing Model in Goodness-of-Fit Indexes	88
Table 9. Indirect Effects within the Competing Model.....	90
Table 10. Hedonic and Utilitarian Groups.....	92
Table 11. Chi-Square Difference Tests of Hedonic and Utilitarian Groups in the Competing Model.....	94

LIST OF FIGURES

Figure 1. A Proposed Model (sport web acceptance model)	8
Figure 2. The Theory of Reasoned Action	21
Figure 3. The Technology Acceptance Model	26
Figure 4. A Brief Model of the Relationships among Involvement, Psychological Commitment, and Behavioral Loyalty	45
Figure 5. A Proposed Model (SWAM) and Research Hypotheses.....	51
Figure 6. Measurement Model.....	68
Figure 7. The Results of Hypothesis Tests.....	82
Figure 8. A Competing Model	89
Figure 9. Path Coefficients across Groups in the Original Model	96
Figure 10. Path Coefficients across Groups in the Competing Model	97

Dedication

This dissertation is dedicated to my parents who provided both emotional and financial support.

CHAPTER ONE

INTRODUCTION

Online sport business has experienced explosive growth and become a viable means of accomplishing marketing strategies. The introduction of the Internet has also changed sport fans' information access methods. The total number of worldwide Internet users has reached approximately 1.15 billion and this number was 17.6 percent of the total population in June 2007 (Internet World Stats, 2007). Jupiter Research (2003) expected that the number of online sport fans would reach 309 million by the end of 2008, up from 113 million in 2005, and \$3 billion was expected to be spent for online sport business in 2003 (Jupiter Research, 2000).

Beck and Bosshart (2003) emphasized the importance of websites in the sport industry by recognizing that "... the World Wide Web is also an ideal place for sports information and for those sports neglected in other media" (p. 14). ESPN.com alone had 1.2 billion visitors from January through November in 2006 (Street & Smith's Sport Business Journal, 2006b). Sixty percent of season tickets and individual tickets for the NHL Washington Capitals have been sold online (Street & Smith's Sport Business Journal, 2002), and in the future most tickets are expected to be sold through the Internet (Howard & Crompton, 2004).

Online sport fans are defined in the present study as sport consumers who have purchased sport-related products online, who have experience with obtaining sport-related information online, who have downloaded game highlights, or who have shared their opinions online about sport-related issues (e.g., trade of players or hiring of a new

coach). As the number of online sport fans increases, sport organizations have started to use the Internet as a marketing tool. For example, professional sport organizations such as the NFL and the NBA have changed their official website interface into one with visual appeal, and revamped individual blogs and social networking spaces in which sport fans can share their opinions and deal for big ticket sales (Street & Smith's Sport Business Journal, 2006a). Also, the NBA plans to sell its League Pass live game package to fans in ten overseas countries through the Internet (Fisher, 2006).

The reasons that most sport organizations have launched and invested large amounts of money on their websites are to enhance their reputation over competing organizations and to generate revenue (e.g., advertising) from the websites. In terms of revenue generation, for example, the MLB official website was expected to generate revenue of \$80 to 90 million in 2003 (Miller, 2003). Other reasons may include extension of market reach, new business opportunities, improvement in customer service, and the generation of online sales (Teo & Tan, 1998).

In order to develop a successful and lucrative website, sport organizations need to understand sport fans' behavior and their decision-making processes related to the website. Such decision-making processes can be understood by examining sequential links between their beliefs about, attitudes toward, and intentions to use the website when sport fans purchase a sport-related product or obtain sport-related information. Additionally, it is necessary to examine how sport fans perceive technological attributes (e.g., usefulness of information, ease of navigation, or enjoyment) provided by the website. Behavioral theories such as the theory of reasoned action (TRA: Fishbein & Ajzen, 1975) and the technology acceptance model (TAM: Davis, 1989; Davis, Bagozzi,

& Warshaw, 1989) seem to explain online consumer behavior very well. These two theories have been applied to offline and online business settings and proved to be valid and explanatory models for predicting potential web usage behavior.

To date, several studies have focused on improving our understanding of online sport business, including the following: (a) analyzing the benefits of using the Internet as a marketing tool (Brown, 2003; Caskey & Delpy, 1999; Delpy & Bosetti, 1998; Duncan & Campbell, 1999; Kahle & Meeske, 1999; Turner, 1999); (b) identifying demographic profiles of online sport consumers (Brown, 2003; Delpy & Bosetti, 1998; Duncan & Campbell, 1999); and (c) analyzing the contents of sport websites (Filo & Funk, 2005; Smith, Pent & Pitts, 1999). Additionally, Filo and Funk (2005) examined marketing mix elements that are conveyed by the websites of three women's soccer teams. These authors also examined which features of the product appeal most to consumers by using the Sport Interest Inventory (SII). In their work, it was found that that these websites were a major source of information for game day product-related information.

Taken together, this prior research presents a compelling case that the Internet does indeed create new business opportunities (e.g., market expansion) for sport organizations, helping them stay competitive in the global sport marketplace. However, while recent studies (e.g., Brown, 2003; Filo & Funk, 2005) have begun to examine online sport fan behavior, a systematic analysis based on well developed theories is still limited in the sport management literature.

Need for the Study

Scholars in the marketing, information systems, and consumer behavior literature have paid attention to online consumers and their behaviors ever since the Internet began to be considered as an opportunity to enhance company image, generate revenue, and obtain sponsorships. However, although the population of online sport consumers has increased, and most sport-related organizations have utilized their websites as a marketing tool for achieving business objectives, little empirical research has been done to comprehensively explain factors that influence sport fans' adoption of sport-related websites, or to apply theoretical models to their behavior in the online context. As a result, little knowledge of sport fans' acceptance of sport-related websites has been provided. The reasons that sport fans use sport-related websites may be different from users of other websites in general. Sport fans, for example, may visit a sport-related website and search for sport-related information because they are interested in or committed to a certain sport, a team, a player, or issues in sport, in addition to ease of use or usefulness (Davis, 1989; Davis et al., 1989). Therefore, antecedents of their intention to use the website could be also different.

In order to understand consumer intention, well grounded theoretical models need to be developed and applied to examine critical factors that explain sport fan behaviors relative to sport-related websites. Therefore, by testing a proposed explanatory model, the present study may contribute to a better understanding of the processes by which sport fans use sport-related websites.

Purposes of the Study

The overall objective of the present study was to contribute to the knowledge of how sport fans perceive and accept sport-related websites. It has two main foci. First, it is designed to provide a valid and reliable scale of sport web acceptance (i.e., SWAS: sport web acceptance scale). Second, it aims to develop and propose a theoretical model (SWAM; sport web acceptance model) for explaining sport fans' use of sport-related websites (e.g., espn.go.com, sportsline.com, msn.foxsports.com, or sports.yahoo.com). Three behavioral theories, the theory of reasoned action (TRA; Fishbein & Ajzen, 1975), the technology acceptance model (TAM; Davis, 1989; Davis et al., 1989), and a framework of involvement, commitment, and loyalty (Iwasaki & Havitz, 2004), are employed as the base theoretical perspectives for conceptualizing the SWAM.

To propose and test the SWAM, several sub-purposes are included in the present study. First, a descriptive analysis was conducted to provide psychometric properties (e.g., mean scores or correlations) of each construct. Second, as the TRA and the TAM are theories for explaining general, non-sport-specific consumer behavior, it is also necessary to introduce sport-specific constructs to the TRA and the TAM so that the resulting proposed model (SWAM) can comprehensively explain sport fans' behavior in the website context. Therefore, examining a sport fan's involvement level in a specific sport and his/her psychological commitment to a sport team, and integrating these two constructs into the TRA and the TAM are another sub-purpose. Finally, the present study examines the moderating effects of hedonic and utilitarian groups, as well as gender, on the SWAM by conducting multi-group analyses with the structural equation modeling method. These multi-group analyses identify differences in path coefficients in the

SWAM across a hedonic-oriented group and a utilitarian-oriented group, and across men and women, as well as investigate the degree to which the SWAM is invariant across the groups.

Research Questions

As the present study examines a proposed model of sport web acceptance by applying the TRA, the TAM, and a framework of involvement, commitment, and loyalty, it attempts to answer the main question: “Why/how do sport fans accept a sport-related website when they use it for information seeking?” To answer the main question, the following questions were generated:

- What are the effects of sport fans’ beliefs about a sport-related website on intention to use the website?
- How do sport fans’ involvement levels in a specific sport influence beliefs about a sport-related website, commitment to a team, and intention to use the website?
- What are the effects of sport fans’ commitment to a team on intention to use a sport-related website?
- What is the indirect effect of sport fan’s beliefs about a sport website on actual usage behavior?
- What are the indirect effects of sport fans’ involvement in sport and sport fans’ commitment to a team on actual web usage?

A Proposed Model

The model proposed in the present study integrates key constructs of the TRA and the TAM, involvement level in sports, and psychological commitment to a team. The constructs include (a) perceived usefulness, (b) perceived ease of use, (c) perceived enjoyment, (d) perceived trustworthiness, (e) sport involvement, (f) psychological commitment to a team, (g) intention to use the website, and (h) actual website usage (see Figure 1).

As Shank and Beasley (1998) stated, since sport involvement is an antecedent of sport-related behavior, sport involvement in the present study serves as the first construct that may influence a sport fan's decision making process and information search behavior on a sport-related website (Laurent & Kapferer, 1985). Sport information search behavior is considered another type of sport-related behavior in the present study.

Sport involvement is also expected to influence psychological commitment to a team. Sport fans' beliefs about the website are hypothesized to influence intention to use the website. In other words, sport fans who score high on the beliefs are expected to show high scores on intention to use the website. Sport fans who show high psychological commitment to a team are expected to present positive intention to use the website. Finally, the intention to use is expected to affect actual usage of the website.

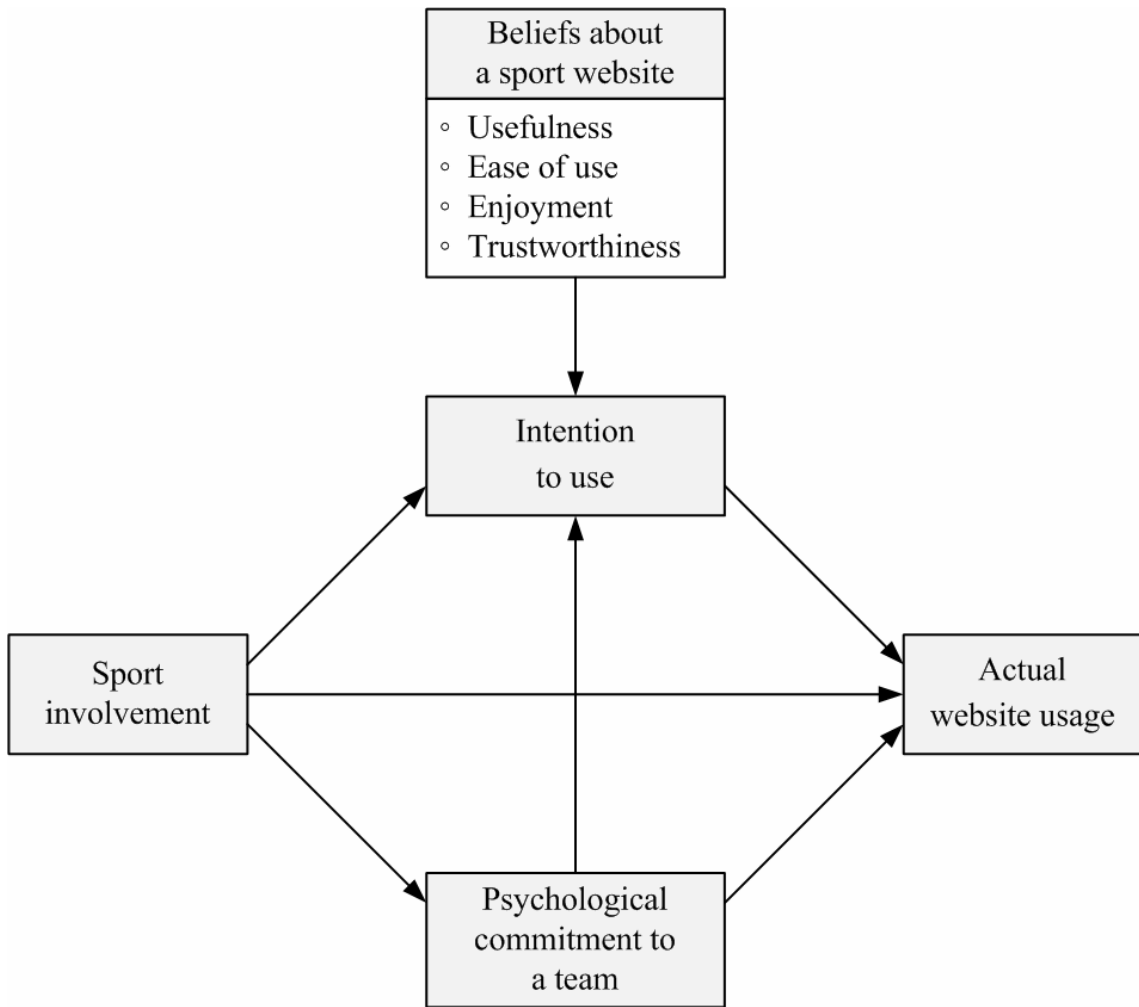


Figure 1. A Proposed Model (sport web acceptance model)

Research Hypotheses

To test the proposed sport web acceptance model (SWAM), ten hypotheses are examined. These hypotheses are related to confirmation of the model. More detailed discussion about hypothesis tests is presented in Chapter 3.

H1. A sport fan's perceived ease of use of a sport-related website will positively influence intention to use the website.

H2. A sport fan's perceived usefulness of a sport-related website will positively influence intention to use the website.

H3. A sport fan's perceived enjoyment of a sport-related website will positively influence intention to use the website.

H4. A sport fan's perceived trustworthiness of a sport-related website will positively influence intention to use the website.

H5. A sport fan's involvement level in sport will positively influence intention to use a sport-related website.

H6. A sport fan's involvement level in sport will positively influence psychological commitment to a team.

H7. A sport fan's involvement level in sport will positively influence actual sport-related website usage.

H8. A sport fan's psychological commitment to a team will positively influence intention to use a sport-related website.

H9. A sport fan's psychological commitment to a team will positively influence actual sport-related website usage.

H10. A sport fan's intention to use a sport website will positively influence actual sport-related website usage.

Significance of the Study

The present study has significant theoretical and practical implications. As the TRA and the TAM are applied to online sport business, validation and generalizability of each theory are examined. Therefore, this study provides information about how well

these theories explain online sport consumer behavior.

The present study also provides an integrated model incorporating the TRA, the TAM, sport involvement, and psychological commitment to a sport team, thereby enabling a greater understanding of how online sport fans develop their intention to use a sport-related website. It contributes to the body of knowledge regarding application of general consumer behavior theories (the TRA, the TAM, involvement theory, and commitment theory) to the online sport business. To date, studies of online sport consumer behavior (e.g., Brown, 2003; Filo & Funk, 2005) have been merely descriptive, and there has been little research built on a strong theoretical foundation that attempts to explain and predict online sport fan behavior. Therefore, the present study provides a theoretical foundation for understanding sport consumer behavior in the online context.

Research on sport web acceptance also has important practical implications. Sport websites (e.g., espn.go.com) can generate revenue, develop an organization's reputation, and achieve organizational goals by bringing sport fans online. Therefore, understanding sport consumers' acceptance of sport-related websites enables a sport organization to modify its website in order to enhance usage (Venkatesh & Davis, 2000).

Limitations

This research examines online sport fans' acceptance of sport-related portal websites (e.g., espn.go.com, sportsline.com, etc.) and does not include their acceptance of online sport retailers' websites (e.g., thegolfwarehouse.com). Thus, one limitation is that sport fans' shopping behavior online is not included; instead, the investigation is focused on consumers' information seeking behavior.

Second, the subjects used to examine the proposed model were mainly university students. Therefore, although the measures and the model used in the present study perform well with the selected sample, replication with different population samples will be necessary to examine the generalizability of the SWAM.

Third, beyond sport involvement and psychological commitment to a team, other sport-related constructs (e.g., sport spectators' motivation) may influence sport fans' acceptance of a sport-related website. This study, however, includes only the involvement and commitment constructs in order to propose a parsimonious model.

Definition of Terms

Online sport fan: a sport fan who uses a sport-related website for purchasing a sport-related product, seeking sport-related information, and/or sharing his/her opinions with an online community.

Sport-related website: a website that includes sport information (e.g., espn.go.com, sportsline.com, etc.), and/or sells and buys sport-related products (e.g., thegolfwarehouse.com, tenniswarehouse.com, etc.).

Sport-related information: information about sport (e.g., game scores, recruitment of players, sports news, etc.).

TRA: the theory of reasoned action (Fishbein & Ajzen, 1975).

TAM: the technology acceptance model (Davis, 1989; Davis et al., 1989).

Belief: the cognitive information a sport fan has about a sport-related website (Fishbein & Ajzen, 1975).

Behavioral intention: a sport fan's intentions to use a sport-related website

(Fishbein & Ajzen, 1975).

Actual web usage: “observable acts” on a sport-related website in terms of frequency or duration (Fishbein & Ajzen, 1975).

Perceived usefulness: the degree to which a sport fan believes that using a sport-related website would achieve his/her information-seeking goal (Davis, 1989).

Perceived ease of use: the degree to which a sport fan believes that using a sport-related website would be “free of effort” (Davis, 1989).

Perceived enjoyment: the degree of pleasure that is experienced when a sport fan uses a sport-related website (Cheng, Sheen, & Lou, 2006; Davis et al., 1989)

Perceived trustworthiness: the extent to which a sport fan believes that a sport-related website is trustworthy in terms of the information provided by the website.

Sport involvement: “an unobservable state of motivation, arousal, or interest” in spectating a sport game or participating in a sport activity, resulting in “searching, information processing, and decision-making” (Laurent & Kapferer, 1985, p. 49).

Psychological commitment to a team: the tendency to resist changing a sport fan’s preference for a team (Crosby & Taylor, 1983; Mahony, Madrigal, & Howard, 2000; Pritchard, Havitz, & Howard, 1999).

Organization of the Dissertation

This dissertation includes six chapters. The first chapter is an introductory chapter that provides a brief explanation of the online sport industry, purposes of the study, generation of research questions, and a brief explanation of the proposed model (SWAM).

The second chapter is the literature review. It introduces information about Internet usage patterns, includes a brief discussion about research on online sport business, and describes the theoretical underpinnings for the proposed model.

The third chapter discusses development of the proposed SWAM model and the hypotheses to be tested.

The fourth chapter describes research methodology. It consists of scale development procedures, measures, sample selection, and data analysis procedures.

In the fifth chapter, the results of the study are presented. It includes results of reliability and validity tests of the scale, measurement and structural model tests, and hypothesis tests. Results of moderating effects of a hedonic group and a utilitarian group, as well as gender, on the proposed model are presented in the last part of this chapter.

The sixth chapter discusses the findings and limitations of the research, as well as implications and recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

In this chapter, a brief review about research on Internet usage patterns including information about current usage, demographic profiles (e.g., age, gender, income, and education), and factors that affect usage patterns is presented. Next, research on sport consumer behavior in the online context is discussed so that the research gap between the sport management field and the non-sport-related literature (e.g., consumer behavior and information management systems) is identified.

Next, in order to understand a sport fan's acceptance of a sport-related website, it is important to review consumer behavior theories and theories pertaining to use of website technology. End users' acceptance of technology has been examined by applying the technology acceptance model (TAM; Davis, 1989; Davis et al., 1989), which is considered one of the most robust models in the information systems literature. Since the TAM was derived from the theory of reasoned action (TRA; Fishbein & Ajzen, 1975), a review of the TRA is first presented, and then the TAM is discussed. A review of how the TAM has been applied to the online context follows.

A review of the other constructs (i.e., sport involvement and psychological commitment to a sport team) used in the present study is provided. Finally, a review of hedonic and utilitarian dimensions is provided in the last part of this chapter.

Internet Usage

Currently, more than half of American adults use the Internet on a daily basis, and their primary use of the Internet is for communication purposes such as e-mail (Howard, Rainie, and Jones, 2001). According to Internet World Stats (2007), more than 1.15 billion people (i.e., 17.6% of the total world population) seek various activities through the Internet. Among them, more than 233 million (69.7 % of the total population) North American people access the Internet for email activity and to look for information, as well as to purchase products online. Studies on patterns of Internet usage have revealed that people use the Internet about 8 hours a week on average, and the major use is emailing or searching for information (Hills & Argyle, 2003). Ninety percent of people who are older than age 12 use email, which is the most popular usage behavior (Fox & Madden, 2006).

Other research has looked into Internet usage specifically in relation to sport. Madden (2003) reported that there was a 73% increase between 2000 and 2002 in the number of people who went online for sports, and about 44% of Internet users have used the Internet to look for sport-related information. There was also a significant increase in the number of young people who use the Internet to search for sport-related information (Madden, 2003).

In terms of gender difference in Internet usage, gender disparities have been identified with regard to the number of users and patterns of usage. However, more recent studies have revealed that gender differences tend to be insignificant. For example, Hills and Argyle (2003) found that there were no gender differences in Internet usage, which is contrary to the argument of Katz and Aspden (1997) that gender differences

would persist despite any increase in female Internet users. Ono and Zavodny's (2003) longitudinal study on Internet usage found that males were the main Internet users in 1994, but that the number of female users increased between the mid and late 1990s. A more recent study (Fallows, 2005) found that men are likely to spend more time online than women; however, women seem to be more enthusiastic about email communication. For online transactions (e.g., paying bills, participating in online auctions, or trading stocks and bonds), men are more likely to use the Internet than women. In contrast, women tend to be more concerned about security and privacy issues online (Fallows, 2005).

Some studies have reported gender differences in terms of website content used by men or women. It has been suggested that women tend to use the Internet to find information about health or religion, while men tend to use it to find information about finance or news about sports or politics (Madden, 2003). Also, differences in Internet usage between genders are found relative to type of sport. For example, during the 2000 Sydney Olympic Games, men were more interested in track and field and basketball games, whereas women were more likely to search for information on gymnastics and swimming (Spooner, 2000).

Differences in Internet usage among different racial groups have also been reported. Madden (2003) stated that racial demographic information is an important factor to be considered in research on Internet usage. For example, according to Howard et al. (2001), about 56% of Whites go online, whereas only 36% of African Americans and 49% of Hispanics use the Internet on a typical day. A more recent study on Internet usage found that Hispanics are less likely to have Internet access at home than Whites

(Fox & Livingston, 2007).

In terms of sport-related information seeking, it was found that minorities with Internet access tended to search for sport-related information more often than Whites (Madden, 2003). In addition, Spooner (2000) reported that Asian-American women are twice as likely to search for sport information as White women.

As for other demographic factors such as income and education, different results have been presented. Howard et al. (2001) found differences in Internet usage among groups with different income and education levels. While half of the people with an annual income under \$30,000 go online, 61% of those earning over \$75,000 are online. In addition, slightly different proportions were found with regard to income levels when content is restricted to sports. According to Madden (2003), relatively low income groups were not likely to use the Internet for obtaining sport-related information. He found that 40% of those whose incomes are under \$30,000 go online for sport information, whereas 51% of those whose incomes are over \$75,000 do so. With regard to level of education, 46% of people who had a high school diploma or less are online compared to 62% of those with a college degree or higher (Howard et al., 2001).

Factors that influence Internet usage patterns have also been identified. For example, Emmanouilides and Hammond (2000) identified seven major factors that predict usage patterns: (a) time since first use; (b) location of use; (c) type of Internet connection; (d) types of application or service used in the last 6 months; (e) reasons for first use; (f) working status of the respondent; and (g) who pays for the online time/connection. Among these factors, length of time since first Internet use was found to be the most significant factor in predicting how often people use the Internet. Similar

to the findings of other studies, e-mail communication was the most popular Internet activity in their study. Other demographic factors such as age, gender, income, and presence of children at home were not found to be significant in predicting the patterns of Internet usage. These findings by Emmanouilides and Hammond are inconsistent with more recent studies (e.g., Fox, 2004; Hills & Argyle, 2003), in that some demographic factors, such as age, were found to be significantly related to Internet usage. For example, older people are less likely to use the Internet than younger people (Fox, 2004; Hills & Argyle, 2003). Fox found that about 58% of people between the ages of 50-64 use the Internet, while 75% between the ages of 30-49, and 77% of people between 18-29 go online. Madden (2003) also found age differences in Internet usage targeted specifically at sport-related content, and reported that young adults are more likely to use the Internet to search for sport-related information than people in older age groups.

In sum, demographic profiles of Internet users seem to be an important factor in understanding users' online behavior. In general sport-related information is sought more frequently by young adults or by Internet users who have relatively high income and education levels.

Review of Literature in the Sport Management Field

Some studies reported in the sport management literature were conducted to provide an understanding of the Internet as a sport marketing tool. Kahle and Meeske (1999) described the reasons for the growth of the Internet and explained Internet characteristics such as information storage, availability of immediate information, interactivity, worldwide network, esoteric access, and mass or individual media. These

authors also mentioned the importance of the Internet for large or small businesses. Caskey and Delpy (1999) examined the revenue models of sport websites including profitability, and spending and earning from the websites. Delpy and Bosetti (1999) explored demographic profiles of Internet users, and found that Internet users and sport fans have similar demographics in terms of gender, average age, and income level. These authors also discussed specific applications of the Internet for sport business. For instance, the Internet is often used for subscriptions, advertising, ticket sales or sport event registration, merchandise sales, sponsorship sales, public relations, market research, fund-raising, sport tourism, scouting, athlete representation, broadcasting, and sporting goods marketing.

Smith et al. (1999) analyzed the contents of 35 stadium websites and pointed out that sports facilities need to develop official websites to effectively interact with sport fans. Integration of television broadcasts and the Internet was suggested by Turner (1999), and such integration may occur with two types of convergence systems (WebTV, and netcasting or webcasting). Brown (2003) analyzed the profiles of website user activity in the sport industry, explored marketing communication objectives of website owners, and examined the perceived benefits of a website. He found that the three most important marketing objectives of website owners are to provide information about the organization to the visitor, to generate awareness of the organization, and to project a favorable organizational image. The perceived benefits of a website are establishing customer loyalty, reaching a global market, and creating brand positioning (Brown, 2003).

The studies reviewed above emphasize the Internet as an important and potential marketing tool, and suggest future directions for scholars and practitioners. In addition,

recent studies have focused on the Internet as a marketing tool from the perspective of a sport organization's owner. However, few studies have identified questions related to how sport fans use the Internet and sport-related websites. It is also necessary for scholars and practitioners to understand online sport fan behavior. In order to understand online consumer behavior, it is necessary to examine the frameworks that have been developed so far. These are described in the next section.

Theory of Reasoned Action (TRA)

Fishbein and Ajzen's (1975) theory of reasoned action (TRA) has received considerable attention within the field of consumer behavior research (e.g., Bright, 2003; Crosby & Muehling, 1983; Fitzmaurice, 2005; Sheppard, Hartwick, & Warshaw, 1988). Applying the TRA to business settings, marketers can predict consumers' intentions and behaviors, and diagnose where and how to target consumers' switching behavior (Sheppard et al., 1988).

The TRA is a conceptual framework of distinctions and relations among beliefs, attitudes, intentions, and behaviors (Fishbein & Ajzen, 1975; see Figure 2). According to the TRA, an individual's behavior is determined by his/her volitional intention to perform the behavior. For example, applying the TRA to the sport-related website context, a sport fan's behavior (e.g., visiting sport-related websites) is predicted by a stated volitional intention. The intention, in turn, is influenced by his/her attitudes toward the behavior and by subjective norms. The TRA is "designed to explain virtually any human behavior" (Ajzen & Fishbein, 1980, p. 4). Therefore, it may be also appropriate to study the determinants of sport web acceptance behavior by applying the TRA. Within the TRA,

two key constructs function as determinants of intention to act: attitude and subjective norms.

Attitude

Fishbein and Ajzen (1975) described the nature of attitude as follows: “Attitude is learned, it predisposes action, and such actions are consistently favorable or unfavorable toward the object” (p. 11). Therefore, attitude is defined as “a person’s favorable or unfavorable evaluation of an object” (Fishbein & Ajzen, 1975, p. 12).

Fishbein and Ajzen (1975) suggested that attitude should be measured by a bipolar affective or evaluative dimension with a given object. To distinguish attitude from belief, the authors compared three constructs – affect, cognition, and conation. Affect is the essential part of attitude and refers to “a person’s feelings toward and evaluation of some object, person, issue, or event; cognition denotes his knowledge, opinions, beliefs, and thoughts about the object; and conation refers to his behavioral intentions and his actions with respect to or in the presence of the object” (p. 12).

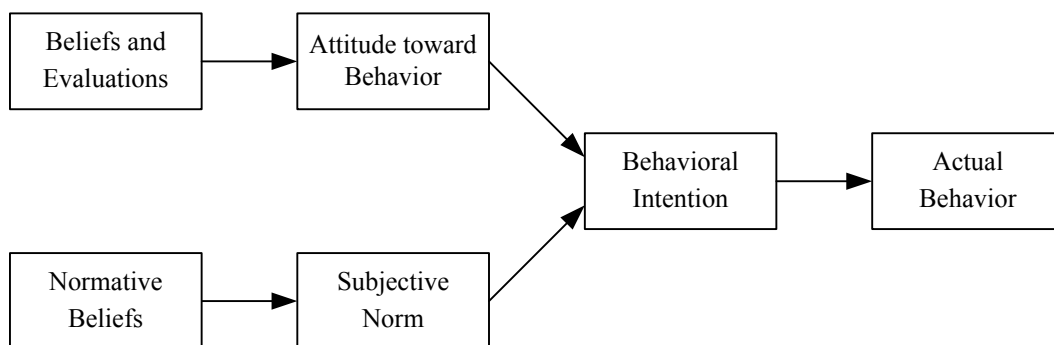


Figure 2. The Theory of Reasoned Action (Fishbein & Ajzen, 1975)

With respect to attitudes, Fishbein and Ajzen focused more on predispositions to behave rather than the behavior itself. Therefore, it may be necessary to make a distinction between behavioral intention and actual behavior because the relation between attitude and behavior for sport fans is sometimes more complicated in that fans who have strong positive or negative attitudes toward a sport team are more likely to watch games than fans who have a neutral attitude (Mahony & Howard, 1998).

Subjective norm

Subjective norm is defined as “a person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Fishbein & Ajzen, 1975, p. 302). Subjective norm has a direct effect on intention to act because a person may perform a behavior in order to comply with his important referents, regardless of his own attitude toward the behavior. However, Karahanna, Straub, and Chervany (1999) argued that cognitive sources (e.g., usefulness) of prior experiences overcome social normative considerations when a consumer uses an online store. Therefore, because the present study focuses on sport fans with prior experience of using a sport-related website, subjective norm is excluded within the proposed model (Gefen, Karahanna, & Straub, 2003a).

Belief

Attitude and subjective norm are determined by sets of salient beliefs. Beliefs refer to “the information he has about the object,” and people may have different belief strength (Fishbein & Ajzen, 1975, p. 12). The object of a belief may include a person, an event, or a quality. There are two types of beliefs: behavioral beliefs and normative beliefs. Behavioral beliefs are related to an individual’s beliefs about the consequences

of a given behavior, whereas normative beliefs are a person's beliefs about the perceived expectations of specific referent individuals or groups for his/her behaviors. Normative beliefs involve specific individuals or groups but subjective norm deals with people who are important to him/her.

Behavioral intention

Behavioral intention refers to "a person's intentions to perform various behaviors" and the strength of an intention is explained by "the person's subjective probability that he will perform the behavior in question" (Fishbein & Ajzen, 1975, p. 12). Intention refers to "a psychological construct distinct from attitude, which represents the person's motivation in the sense of his or her conscious plan to exert effort to carry out a behavior" (Eagly & Chaiken, 1993, p. 168). Behavioral intention within the TRA has been considered to be a conative component of attitude, and is determined by attitude and subjective norm.

Behavior

Behavior refers to "observable acts" (Fishbein & Ajzen, 1975, p. 12). A sport fan may learn or form a number of beliefs about an object (e.g., a sport-related website or its attributes) by various inference processes or from direct observation or information received from outside sources. The sport fan's beliefs will be a fundamental construct that influences his/her attitudes, intentions, and behaviors (Fishbein & Ajzen, 1975). For example, a sport fan's attitude toward an object such as player statistics, one informational piece of content on the Seattle Mariners' official website, is based on his/her salient beliefs about that object. If his/her beliefs associate the object with primarily favorable attributes (e.g., timely updated, exclusive, easy to find), his/her

attitude will tend to be positive. Therefore, a person's attitude toward an object is determined by his/her beliefs about the object's particular attributes and by his/her evaluations of those attributes (Fishbein & Ajzen, 1975).

As described by Fishbein and Ajzen (1975), a sport fan may have beliefs about a sport website, such as "the website is organized well," or "the website is easy to navigate." Such beliefs may lead the fan to have a favorable attitude toward the website. This attitude influences a set of favorable intentions to revisit the website. The fan will probably perform any behaviors (e.g., surfing, purchasing, downloading, etc.) that he/she intends to perform because most social behaviors are thought of as volitional behaviors, and such attitude will be associated with the total behavioral pattern, rather than with any specific behavior (Fishbein & Ajzen, 1975). From Fishbein and Ajzen's perspective, a specific behavior is determined by a person's intention to perform that behavior, not by the person's attitude toward the object.

External variables

The TRA specifies external variables that have been used to explain and predict consumer behavior such as demographics or personality (Crosby & Muehling, 1983). Crosby and Muehling argued that in order to completely explain behavioral intention, the determinants of attitudinal and normative factors need to be examined. The authors found that external variables (e.g., past behavior, awareness of pricing, age, and interest in arts) had direct effects on behavioral intention. In addition, according to Crosby and Muehling, an individual is more likely to attend specific arts events when he/she has general interest in the performing arts. The general interest functions as an external variable. Past behavior, as another external variable, has been considered as an important

predictor of intentions and actual behavior (Bentler & Speckart, 1979) and has been found to attenuate the impact of attitudes on intentions (Bagozzi, 1981).

Technology Acceptance Model (TAM)

The technology acceptance model was developed by Davis in 1989 in order to improve our understanding of system user acceptance of technology, specifically computer usage behavior (see Figure 3). The main objective of the TAM was to theoretically explain the antecedents of users' computer acceptance and their behavior (Davis et al., 1989). Through several decades, the TAM has proved to be a robust, powerful, and parsimonious model (Venkatesh & Davis, 2000).

Davis (1989) utilized the theory of reasoned action (TRA; Fishbein & Ajzen, 1975) as a fundamental theory to develop the TAM. Davis conducted correlation and regression analyses with an initial set of 14 items for each construct (perceived ease of use and perceived usefulness). These perceived usefulness and perceived ease of use constructs serve as beliefs within the TAM. These two beliefs then influence attitude toward using computer-based technology as the TRA links beliefs of a certain behavior and attitude toward the behavior. Whereas the TRA beliefs only affect attitude, in the TAM usefulness is expected to influence both attitude and intention (Davis, 1989; Davis et al., 1989). In other words, under the TAM, the direct effect of belief (e.g., perceived usefulness) on the intention to use a system is substantiated by the fact that although a user has a negative attitude toward the system, he/she may use the system because it enhances his/her performance (Davis & Venkatesh, 1996).

In order to make the TAM a psychometrically and theoretically rigorous model

of user acceptance of technology, Davis and his associates have re-validated the TAM by applying it to different technology uses and by testing different scale formats. For example, Davis (1989) and Davis et al. (1989) further explained two key theoretical differences between the TRA and the TAM.

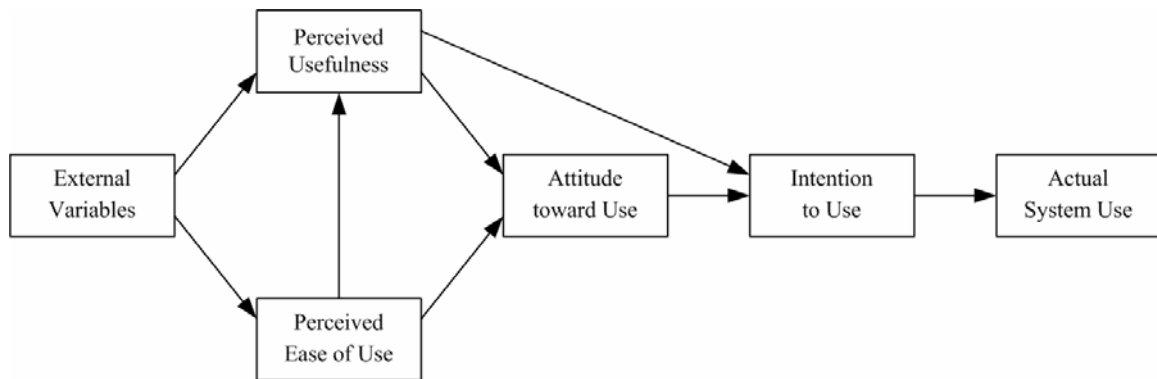


Figure 3. The Technology Acceptance Model (Davis, 1989; Davis et al., 1989)

Whereas under the TRA salient beliefs are explanatory only for a specific context, in the TAM beliefs (i.e., perceived usefulness and perceived ease of use) can be generalized to user acceptance of technology. Additionally, under the TRA a belief is considered a single construct which is then multiplied by all beliefs and then affects attitude toward behavior. In contrast, under the TAM beliefs consist of two distinct constructs (i.e., perceived usefulness and perceived ease of use). The justification for not including the TRA's subjective norm within the TAM was that business settings sometimes require mandatory usage of computer-based technology (Davis et al., 1989). Davis et al. also examined the extent to which attitude mediates the effect of perceived usefulness on intention. They found that attitude did not fully mediate the link between

usefulness and intention, and thus they excluded attitude from the final TAM.

The effects of perceived usefulness and perceived ease of use were further examined by Davis (1993) with a sample of 112 professional and managerial employees of a large North American corporation. Davis found a strong, direct effect of perceived usefulness on attitude toward using a system and actual system use. Perceived ease of use was found to have a relatively small effect on attitude.

As item grouping in the TAM instrument, however, may be problematic in terms of psychometric properties, Davis and Venkatesh (1996) reexamined reliability, convergent validity, discriminant validity, and nomological validity by conducting three experimental tests that investigated the effect of item grouping and intermixing of item order. They found that the original (grouped) scale of the TAM has strong psychometric properties and should be used to best predict and explain user acceptance.

Venkatesh and Davis (2000) extended the technology acceptance model by adding social influence (i.e., subjective norm, voluntariness, and image) and cognitive instrumental processes (i.e., job relevance, output quality, result demonstrability, and perceived ease of use) as external variables. Fishbein and Ajzen (1975) has suggested that external variables should be considered in order to more comprehensively understand human behaviors, and indeed external variables within Venkatesh and Davis's study were found to be significant antecedents for user acceptance and provided more information about user acceptance. The next section discusses each belief construct included within the TAM.

Perceived usefulness

Perceived usefulness is defined as “the degree to which a person believes that

using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). A sport-related website would be perceived as useful if it provides sport fans with rich and relevant information about their favorite teams’ game scores or news. For example, a sport fan makes a judgment about perceived usefulness as he cognitively compares the content on a sport website with what he needs (Venkatesh & Davis, 2000). Therefore, perceived usefulness in the present study is defined as the degree to which a sport fan believes that using a sport-related website would achieve his/her information-seeking goal.

In the online context, the positive effect of perceived usefulness on attitude toward an online retailer and on behavioral intentions to use the retailer has been supported by scholars (e.g., Gefen & Straub, 1997; Koufaris, 2002; Lin & Lu, 2000). Chen, Gillenson, and Sherrell (2002) pointed out that perceived usefulness is the primary antecedent of attitude toward an online retailer and intention to use its website.

Perceived ease of use

Perceived ease of use refers to “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). In the present study, perceived ease of use is defined as the degree to which a sport fan believes that using a sport-related website would be free of effort. “Free of effort” includes ease to navigate, ease to find what he/she wants to look at, and so on. In addition to perceived usefulness, perceived ease of use is another key antecedent of attitude toward use of technology. Perceived ease of use also influences perceived usefulness because the easier a sport website is to use, the more useful a sport fan can perceive it to be (Davis 1989; Davis et al. 1989).

Within the TAM, perceived ease of use is explained as having two basic components: self-efficacy and instrumentality (Davis et al., 1989). If a sport-related website is easier to use, a sport fan may feel more self-efficacy (Bandura, 1982; Davis et al., 1989), and may realize saved effort, and in turn may find more sport information with the same amount of effort (Davis et al., 1989).

As the TAM has been applied to online business, perceived ease of use has also been found to be a significant antecedent of attitude toward an online store (Moon & Kim, 2001; O’Cass & Fenech, 2003). Perceived ease of use also has a direct, positive effect on intention to use information technology (Davis et al., 1989; Gefen & Straub, 2000; Karahanna et al., 1999).

Perceived enjoyment

In addition to the two initial constructs (i.e., perceived usefulness and perceived ease of use), Davis et al. (1992) found that perceived enjoyment as an intrinsic motivation is another factor that influences users’ acceptance. Perceived enjoyment is defined as “the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated” (Davis et al., 1992, p. 1113). Perceived enjoyment, along with perceived usefulness and perceived ease of use, has been found to be a significant antecedent of attitude toward technology acceptance (Davis et al., 1992) and use of websites (Eighmey & McCord, 1998; Jarvenpaa & Todd, 1997). Moon and Kim (2001) introduced perceived playfulness, similar to perceived enjoyment, as another key factor in determining user acceptance of the World Wide Web. Moon and Kim proposed three dimensions of perceived playfulness (i.e., concentration, curiosity, and enjoyment). Perceived enjoyment in the

present study refers to the degree of pleasure that is experienced when a sport fan uses a sport-related website (Cheng et al., 2006; Davis et al., 1989).

Perceived trustworthiness

The last construct of beliefs about a sport website is perceived trustworthiness. Trust is defined as “a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviors of another” (Rousseau, Bitkin, Burt, & Camerer, 1998). Belanger, Hiller, and Smith (2002) proposed a concept of trustworthiness in electronic commerce, which refers to “the perception of confidence in the electronic marketer’s reliability and integrity” (p. 252). This concept is derived from the main elements (i.e., ability, benevolence, and integrity) of trustworthiness identified by Mayer, Davis, and Schooman (1995) and Lee and Turban (2001).

Trustworthiness has also been highlighted in the relationship marketing literature (Ganesan & Hess, 1997; Morgan & Hunt, 1994). For example, consumers’ trust in a sales agent is derived from a sales person’s trustworthiness, honesty, reliability, and consistency (Ganesan, 1994).

The importance of trust in online business has been emphasized because consumers may be uncertain of financial transactions (e.g., concerns of a fake online retailer or credit card abuse) in a virtual environment (Grabner-Kräuter & Kaluscha, 2003). Consumers’ trust in a website is established from their interactions with the website (Bart, Shankar, Sultan, & Urban, 2005). Therefore, issues between users and the website should be solved in order to encourage the users’ trust. Bart et al. proposed eight categories that affect consumers’ online trust. The categories include: (a) privacy; (b) security; (c) navigation and presentation; (d) brand strength; (e) advice; (f) order

fulfillment; (g) community features; and (h) absence of error. Customer retention depends on successful attention to these eight factors.

Reichheld and Scheffer (2000) further argued that trust in a website (e.g., online retailer) is a key factor in retaining consumers, and it is even more important than financial benefits (e.g., cheaper price). One of the major concerns of online users is that they do not know whether to trust the website, especially when they provide financial or personal information to the website. Consequently, gaining customers' trust in the website is one of the major challenges for e-business marketers (Suh & Han, 2002).

Utilizing the TAM, Gefen et al. (2003b) examined the effect of trust in online stores, and differences in purchasing intention between repeat customers and potential customers. They reported that trust directly influenced purchasing intention and the more repeat customers trusted the website, the more they found it useful and easy to use. Additionally, trust, rather than perceived usefulness, was found to be the most important factor for potential customers when financial transactions were made online.

TAM in online business literature

With the proliferation of the Internet, scholars have examined how Internet users accept the technology of the Internet by applying the TAM. Consistent with previous studies of the TAM in the offline context, the TAM has proved useful as a solid theoretical framework in the online context (McKechnie, Winklhofer, & Ennew, 2006; Moon & Kim, 2001; Porter & Donthu, 2006; Roca, Chiu, & Martínéz, 2006; Vijayasarathy, 2004; see Table 1). However, Moon and Kim (2001) argued that additional explanatory factors (e.g., perceived playfulness) may need to be added to the TAM in order to explain users' acceptance of web technology and to predict different

target users in different contexts (e.g., online shopping, Internet banking, etc.).

Efforts to integrate behavioral theories other than the TRA into the TAM have been made by scholars. For example, Shih (2004) extended the TAM in order to explain Internet use for information seeking behavior. He combined the TAM and the information behavior model, and tested the extended TAM with 203 Taiwanese office workers. He identified three stages of information seeking behavior – information needs context, information seeking context, and information use context. He found that the TAM is applicable to Internet utilization behavior, and that the relevance of information needs significantly influenced perceived usefulness, perceived ease of use, and attitudes toward Internet use.

Sánchez-Franco and Roldán (2005) examined web acceptance and usage by incorporating flow theory (Csikszentmihalyi, 1975) into the TAM. Also, they compared acceptance and usage of goal-directed users who utilize websites to achieve their goals to experiential users who enjoy navigating websites for the experience itself within this expanded model. Flow refers to “the holistic sensation that people feel when they act with total involvement” (Csikszentmihalyi, 1975, p. 36) and is considered to involve intrinsic and subjective enjoyment. Sánchez-Franco and Roldán (2005) found that goal-directed users and experiential users show different extrinsic and intrinsic motives. Goal-directed users are influenced by instrumental factors, whereas experiential users are driven by the process of using the websites.

In order to predict an Internet user’s acceptance of the web, Moon and Kim (2001) extended the TAM by introducing perceived playfulness, which is derived from flow theory, as a user’s intrinsic belief. The authors found that perceived playfulness,

perceived usefulness, and perceived ease of use significantly affect attitude toward using the World Wide Web. Behavioral intention is also directly affected by perceived playfulness and perceived usefulness. Additionally, the authors compared the extended TAM that includes perceived playfulness with the original TAM, and found that for a user's WWW acceptance, the extended TAM was more explanatory than the original TAM.

As the TAM uses unidimensional scales of perceived usefulness and perceived ease of use, some scholars (e.g., Page-Thomas, 2006) have argued that it may be difficult to measure to what degree a user perceives usefulness and ease of use. Therefore, Page-Thomas examined the use of the TAM with an added multidimensional measure of usefulness that includes four sub-dimensions (communication, purchase, information search and acquisition, and quality access) and ease of use, which consists of four sub-dimensions (learning, search and find, transactions, and communication). The major finding of Page-Thomas's study was that web usage frequency is determined by the degree to which it is easy to learn how to use the web, and the degree to which the web is useful for purchasing.

Beyond consumers' perceptions of web usage in general, Cheng et al. (2006) examined online users' acceptance of the Internet as a channel of distribution for areas such as information collection, financial payments, and product assortment. Their study supported prior research findings in that they found that there was a significant effect of perceived ease of use on perceived usefulness and a significant effect of perceived usefulness on attitude and intention in the online distribution context. An interesting finding was the negative impact of perceived risk on attitude in the two data sets of

information collection and assortment. These findings may have been due in part to the fact that their product subjects were university students (Cheng et al., 2006).

The studies discussed above have relied on users' perceptions of specific websites. However, it is also important to examine what features and functions of websites companies take into account in order to accomplish their objectives (Heinze & Hu, 2006). Heinze and Hu conducted a 6-year longitudinal study of the websites of Standard & Poor's 500 companies to try to provide an understanding of how large companies utilize their websites. The major finding was that, consistent with previous research, higher levels of interactivity and service, and richer information should be incorporated in order to improve perceived ease of use and perceived usefulness.

Another area widely examined in the context of e-business is Internet banking. For example, Lai and Li (2005) examined users' Internet banking acceptance by applying the TAM and conducting invariance analysis across different groups. They found that the TAM was invariant across gender, age, and information technology competence, further supporting the reliability and validity of the TAM.

One of the most important factors in the online banking literature is customers' trust in web technology, because users must provide sensitive banking and personal information to perform financial activities. Suh and Han (2002) added a trust factor to the TAM to examine users' acceptance of Internet banking, and found support for trust as a critical belief for users' acceptance

Table 1. *Empirical Studies of the TAM*

Authors	Main Variables	External Variables	Subjects	Major Findings
Burton-Jones & Hubona (2006)	○ PU, PEU	○ System experience ○ Level of Education ○ Age	125 employees of a US Government agency	○ Direct effect of external variables on usage (frequency and volume)
Cheng, Sheen, & Lou (2006)	○ PU, PEU ○ Perceived playfulness ○ Perceived risk	-	A total of 447 students	○ Significant effect of PEU and perceived playfulness on PU ○ Significant effect of PU on attitude and intention ○ No significant effect of perceived risk on attitude and PU
Davis & Venkatesh (1996)	○ PU, PEU	-	708 – 3 experiments and 2 systems	○ No significant effect of item grouping vs. item intermixing on reliability and validity of the TAM scales ○ The original format (grouping) found to be better to predict and explain user acceptance
Davis (1989)	○ PU, PEU	-	152 system users	○ More significant effect of PU than PEU on usage ○ Significant effect of PEU on PU
Davis (1993)	○ PU, PEU	○ System design features	112 employees of a large North American corporation	○ Significant effect of system characteristics on usage entirely through attitude, PU and PEU ○ More significant effect (50 % more) of PU than PEU on usage
Davis, Bagozzi, & Warshaw (1989)	○ PU, PEU ○ Subjective norm	-	107 users	○ Strong, significant effect of PU on intention ○ Small but significant effect of PEU on intention ○ Partial mediating effect of attitude on intention ○ No significant effect of subjective norm on intention
Davis, Bagozzi, & Warshaw (1992)	○ PU (extrinsic motivation), PEU ○ Enjoyment (intrinsic motivation)	-	200 MBA students	○ Significant effect of PU and enjoyment on intention
Gefen et al. (2003a)	○ PU, PEU ○ Trust ○ Familiarity ○ Disposition to trust	-	317 MBA and undergraduate students	○ Significant effect of trust on purchasing intention ○ Trust found to be the most important factor for potential customers
Gefen et al. (2003b)	○ PU, PEU ○ Trust	-	213 students	○ Significant effect of trust on intention

Note: P. Enjoyment (perceived enjoyment), PU (perceived usefulness), PEU (perceived ease of use), IIT (image interactivity technology)

Table 1. *Empirical Studies of the TAM (continued)*

Authors	Main Variables	External Variables	Subjects	Major Findings
Koufaris (2002)	<ul style="list-style-type: none"> ○ PU, PEU ○ Perceived control ○ Shopping enjoyment ○ Concentration 	<ul style="list-style-type: none"> ○ Product involvement ○ Web skills ○ Value-added search mechanisms ○ Challenges 	280 customers	<ul style="list-style-type: none"> ○ Significant effect of shopping enjoyment and PU on intention
Lai & Li (2005)	<ul style="list-style-type: none"> ○ PU, PEU 	-	247 graduate students	<ul style="list-style-type: none"> ○ The TAM found to be invariant across gender, age, and IT competence
Lee, Fiore, & Kim (2006)	<ul style="list-style-type: none"> ○ PU, PEU ○ P. Enjoyment 	<ul style="list-style-type: none"> ○ Utilitarian shopping orientation ○ Hedonic shopping orientation ○ IIT 	206 students	<ul style="list-style-type: none"> ○ Significant effect of IIT on attitude and intention ○ Significant effect of hedonic shopping orientation on P. enjoyment ○ Significant effect of utilitarian shopping orientation on PU and PEU
Moon & Kim (2001)	<ul style="list-style-type: none"> ○ PU, PEU ○ Perceived playfulness 	-	152 graduate students	<ul style="list-style-type: none"> ○ Significant effect of perceived playfulness on attitude and intention ○ For the entertainment purpose group, a more significant effect of perceived playfulness on intention than PU
Page-Thomas (2006)	<ul style="list-style-type: none"> ○ PU – 4 sub-dimensions ○ PEU – 4 sub-dimensions 	-	2077 web users	<ul style="list-style-type: none"> ○ Significant effect of how easy to use and how useful for purchasing on frequency of usage
Sánchez-Franco & Roldán (2005)	<ul style="list-style-type: none"> ○ PU, PEU ○ Flow 	-	340 users	<ul style="list-style-type: none"> ○ Significant moderating effect of experiential and goal-directed behaviors between the key relationships in the model
Schepers & Wetzels (2007)	<ul style="list-style-type: none"> ○ PU, PEU ○ Subjective norm 	-	63 studies – Meta analysis	<ul style="list-style-type: none"> ○ Significant effects of subjective norm on PU and intention
Shih (2004)	<ul style="list-style-type: none"> ○ PU, PEU 	<ul style="list-style-type: none"> ○ Relevance of information need 	203 Taiwanese office workers	<ul style="list-style-type: none"> ○ Significant effect of relevance of information needs on PU, PEU, and attitudes toward Internet use as well as individual performance
Suh & Han (2002)	<ul style="list-style-type: none"> ○ PU, PEU ○ Trust 	-	845 bank users in Korea	<ul style="list-style-type: none"> ○ Significant effect of trust on the acceptance of Internet banking
Venkatesh & Davis (1996)	<ul style="list-style-type: none"> ○ PU, PEU 	<ul style="list-style-type: none"> ○ Computer self-efficacy ○ Usability of a specific system 	108 – 3 experiments and 6 systems	<ul style="list-style-type: none"> ○ Significant effect of computer self-efficacy on PEU both before and after hands-on use ○ Significant effect of objective usability on PEU only after direct experience with a system
Yi, Wu, & Tung (2005/2006)	<ul style="list-style-type: none"> ○ PU, PEU 	<ul style="list-style-type: none"> ○ Gender and Age ○ Personal Innovativeness ○ Computer Experience 	88 students	<ul style="list-style-type: none"> ○ Potential direct or indirect effect of individual differences on usage

Note: P. Enjoyment (perceived enjoyment), PU (perceived usefulness), PEU (perceived ease of use), IIT (image interactivity technology)

Involvement

Involvement has been widely studied in the areas of consumer behavior and advertising in order to understand consumers' purchasing behavior. Involvement has been considered as one of the important moderators that determine a consumer's purchase decision (Celsi & Olson, 1988). Examining consumers' involvement has provided knowledge of how and why consumers build particular attachments with a certain product (Michaelidou & Dibb, 2006; Richins & Bloch, 1986; Zaichkowsky, 1985). Involvement can be distinguished from emotional attachment to an object in that involvement is relevant to cognition whereas attachment taps emotion (Thomson, MacInnis, & Park, 2005).

Several leading scholars on involvement research have provided definitions of involvement. Laurent and Kapferer (1985) defined involvement as "an unobservable state of motivation, arousal, or interest... Its consequences are types of searching, information-processing, and decision-making" (p. 49). Another widely used definition of involvement is "a person's perceived relevance of the object based on inherent needs, values and interests" (Zaichkowsky, 1985, p. 342). According to Mano and Oliver (1993), involvement reflects "the inherent need fulfillment, value expression, or interest the consumer has in the product" (p. 452). In consumer behavior theories, Laurent and Kapferer (1985) stated that involvement causes or motivates a certain consequence of a behavior such as a consumer's buying behavior or a communication behavior.

Perceived personal relevance is considered an essential element of involvement (Celsi & Olson, 1988), which means that a consumer's involvement level in a product is determined by the degree to which the product is personally relevant to him/her. Such

personal relevance of a product is associated with the consumer's needs, goals, values, and knowledge about the product (Celsi & Olson, 1988). Celsi and Olson proposed another concept of involvement, "felt involvement," which refers to "a consumer's overall subjective feeling of personal relevance" (p. 211), and identified sources of felt involvement as situational and intrinsic sources of perceived personal relevance.

Scholars in the involvement literature have debated the dimensionality of involvement. Laurent and Kapferer (1985) argued that indicators of the involvement level need to be examined with multi-faceted constructs in order to accurately examine the involvement level relative to a product category. Some scholars (e.g., Bloch, 1981; Rothschild, 1979; Shimp & Sharma, 1983) supported Laurent and Kapferer's argument that involvement should be examined with multi-dimensional constructs, whereas Zaichkowsky (1985) stated that a single construct can explain the nature of involvement. However, Zaichkowsky's personal involvement scale (PII) also has two dimensions: cognitive and affective involvement.

Consumer involvement has been occasionally divided into multiple types of involvement. For example, Zaichkowsky (1985) proposed product involvement (i.e., consumers' interest in a product) and brand-decision involvement (i.e., consumers' interest in brand selection). She focused on the personal relevance concept within these types of involvement. Such personal relevance is associated with personal needs and values. However, as the PII may be sensitive to different situations, efforts to capture situational involvement have been made by other scholars.

These scholars have divided involvement into enduring and situational involvement (Celsi & Olson, 1988; Richins & Bloch, 1986). Enduring involvement is

related to a consumer's use of a product regardless of situations, and sources of enduring involvement are relatively stable and include relevant knowledge derived from past experience and long-term memory (Celsi & Olson, 1988). Situational involvement refers to a consumer's use of a product in a particular situation. Sources of situational involvement may include stimuli, cues, and contingencies, which may individually activate relevant needs, goals and values.

Another involvement scale, the consumer involvement profile scale, which has been widely used in the organizational behavior and consumer behavior literature, was developed by Laurent and Kapferer (1985). Their scale aimed to specify the nature and level of consumer involvement, and involved five facets of involvement: importance, risk importance, risk probability, pleasure, and sign. These five facets were confirmed as predictors of behavior.

Some scholars have examined the direct or indirect effects of involvement on other psychological constructs. For example, previous research found that involvement directly affected consumers' satisfaction (Richins & Bloch, 1991), indirectly influenced intention through satisfaction (Tsiotsou, 2006), and was a mediating variable between mood and intention to shop for a product (Swinyard, 1993). Moreover, different levels of consumer involvement lead to different levels of satisfaction (Oliver & Bearden, 1983).

Sport and leisure involvement

The involvement concept has been applied to the study of leisure and sport, and has been found to be predictive of sport-related behaviors and other relevant psychological constructs (e.g., satisfaction, loyalty, and motivation; Funk, Riding, & Moorman, 2004; Lascu, Giese, Toolan, Guehring, & Mercer, 1995; Iwasaki & Havitz,

1998, 2004; Kerstetter & Kovich, 1997; Kyle, Absher, Hammitt, & Cavin, 2006; Park, 1996; Shank & Beasley, 1998). As Laurent and Kapferer (1985) argued, a consumer may utilize different decision-making processes and information search behaviors according to his/her level of involvement; therefore, identifying individual involvement level in sport could be a key element in understanding sport information search behavior online.

The Personal Involvement Inventory (PII; Zaichkowsky, 1985) was developed to measure sport spectators' involvement in a PGA tournament. The PII was also utilized in another golf event by Lascu et al. (1995) to examine individual involvement with golf. In Lascu et al.'s study, sport involvement was examined as an individual difference factor that influences spectator behaviors and general commitment to a sport. Sport involvement was identified as an important predictor for analysis of market segments.

Shank and Beasley (1998) developed a sport involvement scale based on the studies of Lascu et al. (1995) and Zaichkowsky (1985) in order to explore the relationship between sport involvement and sport-related behaviors (e.g., participation in sports, attendance at sports events, sport-related television viewing, and sport-related newspaper and magazine readership). Shank and Beasley also investigated sport fans' media habits, exercise habits, and demographic profiles, as well as the relationship between sport involvement and these habits and demographics. Because the nature of involvement is primarily about the perceived importance of the stimulus (Mittal, 1995), Shank and Beasley (1998) utilized sport as the stimulus of interest, and defined the psychological concept of sports involvement as "the perceived interest in and personal importance of sports to an individual" (p. 436).

Involvement has been found to be strongly associated with attitudinal loyalty to a

fitness program and an antecedent of short-term usage of the program (Park, 1996). Park used the consumer involvement profile scale (Laurent & Kapferer, 1985), and adopted a three-component conceptualization of organizational commitment (normative loyalty, affective loyalty, and investment loyalty; Allen & Meyer, 1990). Park found that the higher the score on importance, self-expression, and risk consequence, the more likely participants would score highly on affective loyalty, investment loyalty, and normative loyalty.

Havitz and Howard (1995) investigated the enduring nature of involvement for three sport activities (golf, downhill skiing, and windsurfing) utilizing the consumer involvement profile scale. They found that the importance, pleasure, and risk probability dimensions were stable across seasons, whereas sign and risk consequence were relatively unstable. Havitz and Mannell (2005) further examined the relationships between enduring involvement, situational involvement, and flow in both leisure and non-leisure contexts. Situational involvement was found to be a mediating variable for the relationship between enduring involvement and flow.

More recent research conducted by Kyle et al. (2006) examined the relationship between motivation and enduring involvement, and confirmed the positive effect of motivation on enduring involvement. In so doing, Kyle et al. utilized Lawler's (1973) expectancy-value model of motivation as a theoretical framework and adopted Manfreda, Driver, and Tarrant's (1996) motivation scale.

Involvement level in sport is assumed to be more enduring more than short-term involvement with products, such as frequently purchased detergents (Suh & Yi, 2006). Involvement level in sport serves as a starting point that may influence the other

constructs within the proposed model (SWAM).

Psychological Commitment

Commitment has been characterized as emotional and/or psychological attachments toward brands, stores, or services (Evanschitzky, Iyer, Plassman, Niessing, & Meffert, 2006; Thomson et al., 2005), and is considered a fundamental antecedent to customer loyalty (Beatty & Kahle, 1988; Dimitriadis, 2006; Havitz & Mannell, 2005) and future behavioral intentions (Pritchard et al., 1999). Emotional attachment reflects the degree to which an individual interacts with an object, and predicts his/her commitment to the object (Thomson et al., 2005). Commitment is defined as “an enduring desire to maintain a valued relationship” (Moorman, Zaltman, & Deshpandé, 1992, p. 316) and “a tendency to resist change” (Pritchard et al., 1999). Resistance to change refers to “individuals’ unwillingness to change their preferences toward, important associations with, and/or beliefs about a brand” (Iwasaki & Havitz, 2004, p. 50).

Research on commitment in 1960 through 1980 mainly focused on the relationship between employees and an organization within a social-psychological framework (Kanter, 1968; Schwartz, 1973; Wiener & Vardi, 1980). In organizational behavior theory, commitment has been found to be an important factor in the rate of employee turnover (Farrell & Rusbult, 1981). Mowday, Porter, and Steers (1982) defined an employee’s commitment as “the relative strength of an individual’s identification with and involvement in a particular organization” (p. 27). Pritchard et al. (1999) described such commitment as the employee’s cognitive beliefs that include behavioral intention.

While some studies in the marketing literature have treated commitment as a unidimensional construct (Garbarino & Johnson, 1999; Mahony et al., 2000; Morgan & Hunt, 1994), others have utilized multidimensional constructs such as affective commitment and continuance (i.e., calculative) commitment (Allen & Meyer, 1990; Bansal, Irving, & Taylor, 2004; Pritchard et al., 1999). Affective commitment is defined as “an emotional attachment to, identification with, and involvement in the organization” (Meyer & Allen, 1984; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002, p. 21). Continuance commitment is based on an individual’s cost recognition that leads to long-term commitment to an organization due to the economic costs of leaving (Meyer & Allen, 1997). Additionally, an individual with high commitment to an object is likely to sacrifice short-term benefits to achieve long-term benefits (Ganesan & Hess, 1997). The present study focuses on affective commitment because to be a fan of a sport team or a player does not seem comparable to an employment obligation.

Meyer and Allen (1987) conceptualized three types of attitudinal commitment to an organization (affective, continuance, and normative commitment). Allen and Meyer (1990) described the three types of commitment as follows: “employees with strong affective commitment remain because they want to, those with strong continuance commitment because they need to, and those with strong normative commitment because they feel they ought to do so” (p. 3).

Pritchard et al. (1999) proposed three processes as antecedents of commitment (informational, identification, and volitional processes) that lead to resistance to change. Informational processes involve a person’s cognitive management of information about preference, while identification processes deal with the person’s attachment and linkage

to the preference. Volitional processes can be explained by “a freedom from constraints and a freedom to choose” (p. 336). The results of their study indicated that these three processes were important antecedents of resistance to change, which in turn significantly influenced loyalty.

Based on the importance of resistance to change, Mahony et al. (2000) developed psychological commitment to team (PCT) scale to examine sport fans’ attitudinal commitment to a team. Mahony et al. focused on sport fans’ persistence as fans of a certain team even though the team performed poorly or changed players or coaches. They highlighted affective commitment rather than behavioral commitment, since behavioral indicators such as increases in attendance, ticket sales, or repeated attendance in sports events are not sufficient to explain sport fans’ loyalty to a team in that sport fans who cannot attend a game may still maintain strong loyalty to a team.

More recent studies have treated commitment as a mediating variable between psychological constructs. For example, Evanschitzky et al. (2006) applied this organizational commitment to the relationship between customer and service, and concluded that “commitment has a significant role in cultivating attitudinal loyalty, since commitment reflects the customers’ self-evaluation of the consumption context and the active decision to engage in a long-term relationship with a brand or a firm” (p. 1208). These researchers examined the effect of affective and continuance commitment on attitudinal and behavioral loyalty. The results suggested that customers were more likely to show enduring loyalty when there were emotional bonds with the organization, rather than only economic incentives. Fullerton (2005) also investigated the causal relationships between service quality, commitment, and loyalty, and found that affective

commitment and continuance commitment were partial mediators between service quality and loyalty.

Gustafsson, Johnson, and Roos (2005) tested the effects of three predictors (overall customer satisfaction, affective commitment, and calculative commitment) on customer retention, and also found a significant effect of these predictors on retention. These commitments can be enhanced by improving service quality, perceived value, satisfaction level, and trust (Grönroos, 1990).

Iwasaki and Havitz (2004) examined the mediating effects of psychological commitment on the relationship between leisure involvement and behavioral loyalty to a recreation agency. Also, these researchers distinguished between involvement, psychological commitment, and behavioral loyalty in the leisure context. Leisure involvement reflects “people’s beliefs about their leisure participation, whereas psychological commitment and attitudinal loyalty reflect their attitude toward a brand of service...behavioral loyalty represents people’s behavior in their leisure (e.g., the use of a recreation service provider)” (Iwasaki & Havitz, 2004, p. 50).

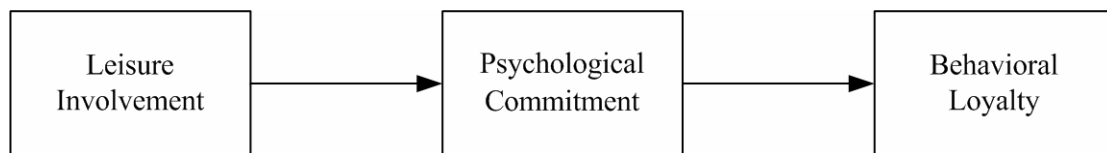


Figure 4. A Brief Model of the Relationships among Involvement, Psychological Commitment, and Behavioral Loyalty (Iwasaki & Havitz, 2004)

In the online context, Lee, Pi, Kwok, and Huynh (2003) proposed commitment as a critical construct in retaining consumers with long-term relationships. Eastlick, Lotz,

and Warrington (2006) also found that trust in and commitment to online retailers are core components of a positive relationship between the retailers and consumers, as well as purchase intention.

Hedonic and Utilitarian Dimensions

This section provides a review of hedonic and utilitarian dimensions. These two dimensions are not included in the proposed model (SWAM), but they were measured in order to examine their moderating effects on the proposed model.

Some sport fans simply want to find their favorite sport teams or players' game results on a sport-related website as quickly as possible whereas others enjoy watching a video streaming of a player's interview or today's best goal or shot. As such, sport fans' purposes for visiting a sport-related website may differ across individuals. Research in the field of consumer behavior has identified such individual differences in consumption behaviors as hedonic and utilitarian values (Babin, Darden, & Griffin, 1994; Batra & Ahtola, 1990; Crowley, Spangenberg, & Hughes, 1992; Okada, 2005; Voss, Spangenberg, & Grohmann, 2003). Consumer research with regard to hedonic and utilitarian dimensions has focused on consumers' attitude toward product categories (Crowley, Spangenberg, & Hughes, 1992) and brands (Batra & Ahtola, 1990).

The hedonic dimension captures consumers' evaluation about a brand/product with regard to the fun or pleasure involved in use of a product. The utilitarian dimension is related to consumers' evaluation about the function performed by the product (Batra & Ahtola, 1990; Voss et al., 2003). In addition, utilitarian products are considered a means of obtaining benefits in day-to-day life whereas hedonic products are treated as a means

of improving the quality of life (Dhar & Werternbroch, 2000).

However, hedonic and utilitarian dimensions are not necessarily two divergent ends (Voss et al., 2003) and some products can have high hedonic and high utilitarian values simultaneously (Crowley et al., 1992). Okada (2005) stated that the hedonic or utilitarian value of a product can be ‘primarily’ or ‘relatively’ more hedonic-oriented or more utilitarian-oriented.

Addis and Holbrook (2001) also argued that whether a product has relatively more utilitarian, hedonic, or balanced value depends on the respective weights of the contributions by the objective product-based and subjective consumer-related components. In their study, consumers’ subjective components are related to their experiences of and sensory reactions to a product, whereas the objective product-based components associate with the functionality of a product. For example, a sport fan can perceive both hedonic and utilitarian values on a sport-related website. He/she may enjoy visual images on the website that may lead to hedonic value, or may need to find his/her favorite team’s game scores from the website that may lead to utilitarian value.

Babin, Darden, and Griffin (1994) pointed out that a consumer’s shopping value is not provided by the product that they want to purchase, but is rather provided by “the complete shopping experience” (p. 645). Such a complete experience for a sport fan can be positively maximized by providing hedonic and utilitarian value on a sport-related website. In addition, as the purposes of visiting a sport-related website may be different across individual sport fans, it is necessary to examine how these different purposes (hedonic-oriented and utilitarian-oriented) influence their decision-making processes and adoption of the website.

Summary

In sum, the purposes of this chapter were to discuss fundamental theories pertinent to the development of a sport web acceptance model (SWAM), and to review prior empirical studies that help to hypothesize causal relationships between constructs within the proposed SWAM. The empirical studies included research in the sport management literature and the literature in non-sport areas of marketing, information systems, and organizational behavior. After reviewing these theories and empirical studies, it was determined that each construct (perceived ease of use, perceived usefulness, perceived enjoyment, perceived trustfulness, sport involvement, and psychological commitment to a team) of the proposed SWAM can be expected to be an important factor that affects sport fans' decision-making processes and acceptance of sport websites. In addition, the literature confirms that the TRA, the TAM, and the constructs of sport involvement and psychological commitment to a team can complement each other to explain and predict sport fan's acceptance of sport websites.

CHAPTER THREE

RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

This chapter discusses the development of the proposed model and hypotheses. The proposed model and research hypotheses were developed by integrating consumer beliefs and other psychological constructs from prior research on the theory of reasoned action (Fishbein & Ajzen, 1975), the technology acceptance model (TAM: Davis, 1989; Davis et al., 1989), involvement (Shank & Beasley, 1998; Zaichkowsky, 1985), and psychological commitment (Iwasaki & Havitz, 2004; Mahony et al., 2000).

Proposed Model

Based on the TAM framework, sport involvement and psychological commitment to a team comprise the major components of the proposed model (SWAM; see Figure 5). The SWAM indicates that four belief constructs (perceived ease of use, perceived usefulness, perceived enjoyment, and perceived trustworthiness) and two sport-specific constructs (sport involvement and psychological commitment to a team) are expected to be direct, major antecedents of sport fans' intention to use a sport-related website. Also, psychological commitment to a team is expected to be a mediating variable between sport involvement and behavioral intention to use the website, or between sport involvement and actual web usage.

For example, a sport fan may visit a sport website (e.g., espn.go.com) and find his/her favorite sport team's (e.g., Boston Red Sox) game score in the World Series. He/she visits a particular website because he/she is committed to the team or has a strong

intention to use the website. Such strong intention may be developed through sport involvement level (e.g., baseball is very important to him/her). The reasons he/she uses that particular website are that the website is easy and fun to use, useful for information seeking, and trustworthy. A conceptualization of this usage acceptance process for a sport website is presented in Figure 5.

Research Hypothesis Development

The present study includes ten hypotheses (see Figure 5) that identify causal relationships between constructs. Each causal relationship between constructs is hypothesized based on prior research on information systems, consumer behavior, and organizational behavior.

Beliefs about a sport-related website and intention to use the website

Perceived ease of use, perceived usefulness, perceived enjoyment, and perceived trustworthiness are considered end users' beliefs about using technology. Perceived ease of use and perceived usefulness have been shown to be predictors of intention to use technology (Davis, 1989; Davis et al., 1989), web-based information systems (Klaus, Gyires, & Wen, 2003; Page-Thomas, 2006; Shih, 2004), online tax payment (Wu & Chen, 2005), online banking (Wang, Wang, Lin, & Tang, 2003), and mobile service (Hong, Thong, & Tam, 2006; Wang, Lin, & Luarn, 2006). Therefore, the first hypothesis and second hypothesis are established as:

H1. A sport fan's perceived ease of use of a sport-related website will positively influence intention to use the website.

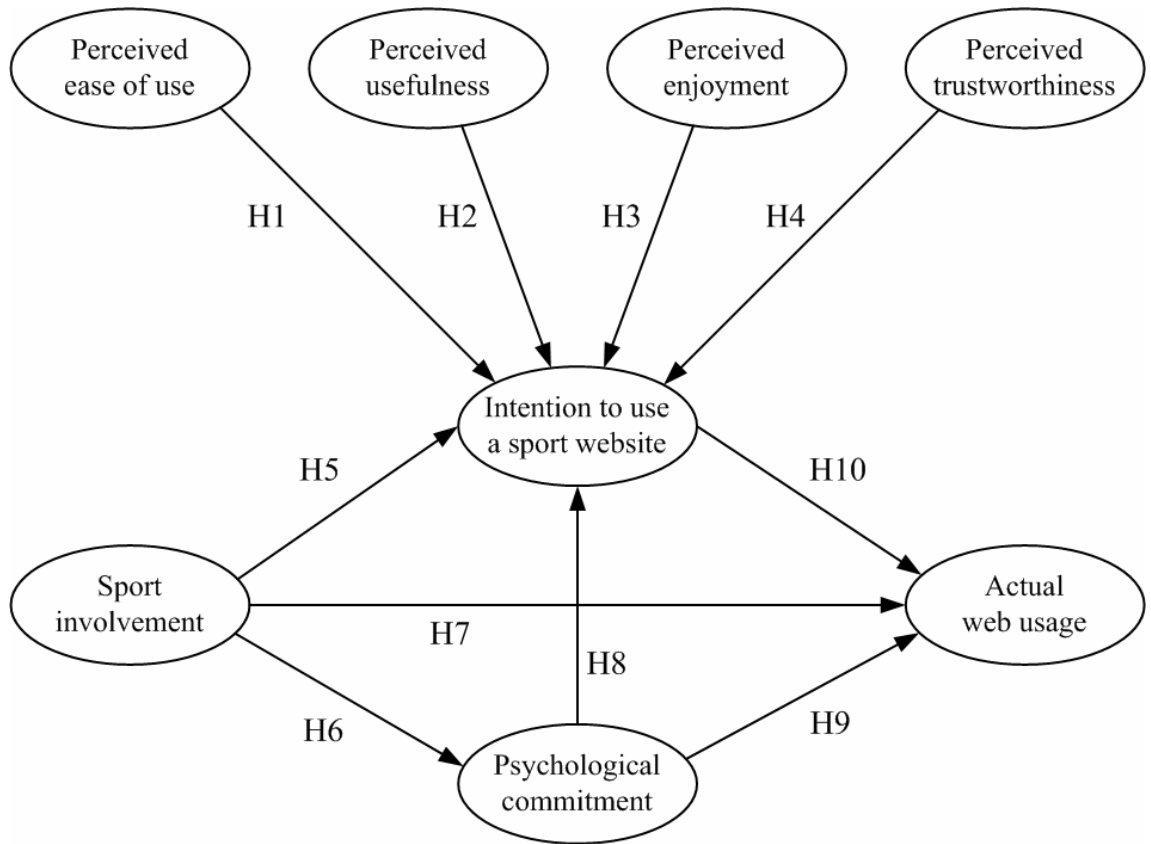


Figure 5. A Proposed Model (SWAM) and Research Hypotheses

H2. A sport fan's perceived usefulness of a sport-related website will positively influence intention to use the website.

While extrinsic motivation (e.g., perceived ease of use and perceived usefulness) plays a critical role in the use of technology, intrinsic motivation (e.g., perceived enjoyment) has also proved to be an important factor for predicting end users' intentions (Davis et al., 1992; Monsuwé, Dellaert, & de Ruyter, 2004; Moon & Kim, 2001). Therefore, it is hypothesized that:

H3. A sport fan's perceived enjoyment of a sport-related website will positively influence intention to use the website.

As discussed in Chapter 2, a sport fan's trust in a sport website is developed by interaction with the website and perception of the website's ability to deliver what the consumer expects and needs (Bart et al., 2005). Prior research on online trust has revealed that there was a significant effect of trust in a website on future intention to use the website (Bart et al., 2005). Therefore, the fourth hypothesis is generated:

H4. A sport fan's perceived trustworthiness of a sport-related website will positively influence intention to use the website.

Sport involvement and intention to use a sport-related website

Involvement has been found to be mainly a mediating variable between psychological constructs (e.g., satisfaction, loyalty, commitment, and intention: Richins & Bloch, 1991; Oliver & Bearden, 1983; Swinyard, 1993). However, some studies found a direct and significant effect of involvement on intention to behave. Richard (2005) found that a consumer who has high involvement with a website is more likely to show

high purchase intention on the website. Kim and Jin (2001) also found support for this direct relationship in that online shopping involvement directly influenced desire to stay at an online store, as well as patronage intention toward that online store. Applying this causal relationship, the fifth hypothesis that predicts a causal relation between a sport fan's involvement in a particular sport and his/her intention to use a sport website is generated as follows:

H5. A sport fan's involvement level in sport will positively influence intention to use a sport-related website.

Sport involvement and psychological commitment to a team

The positive effect of involvement on psychological commitment has been supported by scholars (Crosby & Taylor, 1983; Iwasaki & Havitz, 1998, 2004). Blau (1987) demonstrated that job involvement and organizational commitment are distinct constructs, but that these two constructs are interrelated (Kim, Scott, & Crompton, 1997). Iwasaki and Havitz (1998) argued that each dimension (e.g., attraction, sign value, etc.) in the involvement construct influences each dimension (e.g., confidence, position involvement, etc.) of psychological commitment. Kyle and Mowen (2005) supported the causal relationship between leisure involvement and agency commitment, but also pointed out that moderating variables (e.g., social support) can influence the causal relationship. Based on previous research on the relationship between involvement and commitment, it is hypothesized that:

H6. A sport fan's involvement level in sport will positively influence psychological commitment to a team.

Sport involvement and actual website usage

In the offline context, people who have a strong interest in shopping in a mall are more likely to spend time in the mall and to return to the mall again (Wakefield & Bake, 1998). Gursoy and McCleary (2004) proposed that as a tourist's involvement increases, internal and external information search behavior will increase. In the online context, a consumer who has high level of involvement in a website tends to search for product information there (Balabanis & Reynolds, 2001). Therefore, the seventh hypothesis is as follows:

H7. A sport fan's involvement level in sport will positively influence actual sport-related website usage.

Psychological commitment and intention to use a sport-related website

The effect of psychological commitment on behavioral intention has been supported by scholars. For example, Pritchard et al. (1999) found a significant effect of psychological commitment on behavioral intention. Conducting an experimental study, Fullerton (2003) found that consumers who have a high level of commitment are likely to pay more for a product, even if its price increases. Fullerton's later study (2005) indicated that affective commitment has positive impacts on customer retention, advocacy, and willingness to pay more for a service. Commitment plays an important role in mediating the relationship between attitude and future intentions (Garbarino & Johnson, 1999). The following hypothesis is based on these findings of prior research on consumer commitment and intention:

H8. A sport fan's psychological commitment to a team will positively influence intention to use a sport-related website.

Psychological commitment and actual website usage

Research on commitment and behavior has been conducted primarily in the field of organizational behavior. For example, Shore and Wayne (1993) found that an employee's affective commitment to an organization is positively related to organizational citizenship behavior.

H9. A sport fan's psychological commitment to a team will positively influence actual sport-related website usage.

Intention to use a sport website and actual website usage

The strong relationship between intention and behavior has been documented (Ajzen & Fishbein, 1974; Fishbein & Ajzen, 1975). As discussed in Chapter 2, an individual's behavior is determined by his/her intention, which is influenced by beliefs about the behavior and by subjective norms. However, Davis et al. (1989) found that subjective norms were not predictors of intention. Morris and Venkatesh (2000) argued that the effect of subjective norm diminished over time in an older worker group, and that there was no effect in a younger worker group. As the effect of subjective norms on intention is controversial in the context of technology acceptance, they were excluded in the SWAM.

Within the TAM, intention is a strong antecedent of actual usage, and this relation has been widely supported both in the offline and in the online contexts (Gefen & Straub, 1997; McKechnie et al., 2006; Moon & Kim, 2001; Venkatesh & Davis, 2000). Therefore, the final hypothesis is developed as follows:

H10. A sport fan's intention to use a sport-related website will positively influence actual sport-related website usage.

CHAPTER FOUR

METHODOLOGY

In this chapter, methodological procedures for testing the research hypotheses and the proposed model presented in Chapters 1 and 3 are described. Specifically, the following methodological procedures are described: (a) scale development procedures; (b) the research sample and data collection procedures; and (c) data analysis procedures used to test the research hypotheses and the proposed model.

Scale Development Procedures

For the purpose of the present study, a scale was developed utilizing four steps, including: (a) item generation; (b) item purification through a panel of experts and a field test; (c) pretesting of the survey instrument through a pilot study; and (d) confirmation of the survey instrument through structural equation analyses with the final sample.

A paper and pencil survey method was used to collect data. In the survey instrument, a cover letter was presented (see Appendix B), and instructions for the self-report questionnaire were provided. In the first part of the survey, questions were asked about participants' age and gender, involvement level in sport, a favorite sport-related website, and actual usage patterns (i.e., frequency and duration). The second part contained questionnaire items relative to perceived ease of use, perceived usefulness, perceived enjoyment, perceived trustworthiness, and intention to use the website. Finally, questions pertaining to psychological commitment to a team were presented.

Item generation

For the purpose of the present study, the researcher developed the sport web acceptance scale (SWAS). The development of the SWAS followed standard psychometric procedures as suggested by Nunnally & Bernstein (1994). The first step in the scale development process was the generation of a list of items for each construct. Multiple measures for each construct were developed and modified from items in existing scales: sport involvement (Shank & Beasley, 1998; Zaichkowsky, 1985, 1994); the TRA (Fishbein & Ajzen, 1975); the TAM (Davis, 1989; Davis et al., 1989; Davis et al., 1992; Gefen et al., 2003b; Lai & Li, 2005; Moon & Kim, 2001); perceived enjoyment (Davis et al., 1992; Moon & Kim, 2001); perceived trustworthiness (Eastlick, Lotz, & Warrington, 2006; Koufaris & Hampton-Sosa, 2004); psychological commitment to a team (Mahony et al., 2000).

Sport involvement

As discussed in Chapter 2, there has been a debate on the dimensionality of involvement. Some scholars (Allen & Meyer, 1990; Laurent & Kapferer, 1985; Rothschild, 1979; Shimp & Sharma, 1983) have argued that involvement should be examined with a multi-dimensional scale, consisting of importance, pleasure, self-expression, risk consequence, or risk probability, whereas others (e.g., Zaichkowsky, 1985) have stated that it is sufficient to use a single construct to measure involvement.

The Personal Involvement Inventory (PII) developed by Zaichkowsky (1985) was originally composed of 20 items, but was revised into a 10-item scale. The short version of PII was also reliable and more parsimonious (Zaichkowsky, 1994), and has been extensively used in the marketing and consumer behavior literature. The 10-item

scale includes two dimensions: affective and cognitive dimensions. The affective dimension consists of five items, including (a) interesting, (b) appealing, (c) fascinating, (d) exciting, and (e) involving. The cognitive dimension also has five items: (a) important, (b) relevant, (c) valuable, (d) means a lot to me, and (e) needed.

In the present study, Shank and Beasley's (1998) sport involvement scale, which adopted the PII and includes cognitive and affective aspects of sport fans' involvement, was used. The cognitive aspect attempts to measure sport involvement level in terms of sport as useful, needed, relevant, and important to a sport fan. The affective aspect deals with levels of boredom, excitement, appeal, fascination, and involvement. These two aspects of involvement are consistent with Gantz and Wenner's (1995) conceptualization of "sports fanship" as comprised of cognitive, affective, and behavioral components.

The sport involvement measure includes 10 items and uses a seven-point semantic differential scale. The semantic differential scale is used mainly for evaluation, potency, and activity, and typically involves a particular bipolar to examine a participant's evaluative judgments of stimuli such as bad-good, unpleasant-pleasant, etc. (Rosenthal & Rosnow, 1991). The measure used in the present study includes: (a) important – unimportant; (b) boring – interesting; (c) relevant – irrelevant; (d) exciting – unexciting; (e) means nothing – means a lot to me; (f) appealing – unappealing; (g) fascinating – mundane; (h) worthless – valuable; (i) involving – uninvolved; and (j) not needed – needed.

Perceived ease of use and perceived usefulness

Perceived ease of use and perceived usefulness, which have been validated as strong predictors of system end users' attitudes and intention to use technology, initially

had 28 candidate items (14 for each; Davis, 1989). Davis refined the scale and proposed a scale of 12 items (6 for each) to make the scale as brief as possible, based on the results of testing of reliability, convergent validity, discriminant validity, and factorial validity. The scale with 6 items per each construct also revealed high reliability and validity. Davis et al. (1989) further purified the scale into 4 items per each construct and two different studies showed a reliability (Cronbach's alpha) of .95 and .92 for perceived usefulness and .91 and .90 for perceived ease of use. The scale with 4 items has been widely used by scholars (Bhattacharjee & Premkumar, 2004; Davis & Venkatesh, 1996; Koufaris, 2002; Venkatesh & Morris, 2000; Yang & Yoo, 2004) due to the advantage of parsimony. For the pilot study, the 6 item-scale (Davis, 1989; Gefen et al., 2003b) per each construct was used in the present study. The format for the instrument is a seven-point Likert scale format, ranging from (1) "Strongly Disagree" to (7) "Strongly Agree." Based on the results of the pilot study, 4 items for perceived ease of use and 4 items for usefulness were used for the data analysis.

Perceived enjoyment

Davis et al. (1992) added perceived enjoyment as a measure of intrinsic motivation within the TAM. To measure end users' intrinsic motivation, several scholars (e.g., Lee et al., 2005; Van der Heijden, 2004; Venkatesh, 2000) also utilized perceived enjoyment. Since perceived enjoyment has been found to be a predictor of attitude toward and use of websites (Eighmey & McCord, 1998; Jarvenpaa & Todd, 1997), it is integrated into the proposed model. The scale for perceived enjoyment is adopted from Davis et al. (1992) and Moon and Kim (2001).

Perceived trustworthiness

Since most studies have measured perceived trustworthiness in the online business by using consumers' beliefs about the characteristics of integrity, benevolence, and ability (Bhattacharjee, 2002), the measurement scale of perceived trustworthiness in the present study utilized similar characteristics. The measure for perceived trustworthiness was adopted from scales used by Koufaris and Hampton-Sosa (2004) and Eastlick et al. (2006).

Psychological commitment to a team

To date, there has been no consensus among scholars on the relationships between attitudinal and behavioral commitment (Meyer & Allen, 1997) and the dimensionality of commitment (Bansal et al., 2004). The present study focused on attitudinal commitment because it leads to behavioral intentions toward an object (e.g., usage of sport-related websites; Bansal et al., 2004; Ajzen & Fishbein, 1970). Based on the commitment scale developed by Pritchard et al. (1999), Mahony et al. (2000) proposed the psychological commitment to a team (PCT) scale, which uses a seven-point Likert scale format, and focuses on sport fans' commitment to a sport team, for example, a National Football League team. The PCT scale initially consisted of 15 items, and was further refined into a 14-item scale based on examination of the item-to-total correlations with four different samples. Cronbach's alpha of each sample showed a high level of internal consistency (i.e., average alpha of around .90). Construct and predictive validity of the 14-item scale were also established by conducting several psychometric tests (e.g., one-way ANOVA and a regression analysis). The present study utilized Mahony et al.'s PCT scale because it focuses more on the sport-specific context than other scales (e.g.,

Pritchard et al., 1999).

Hedonic and utilitarian dimensions

The scale instrument of the present study included the hedonic and utilitarian scale in order to examine moderating effects of a hedonic-oriented group and a utilitarian-oriented group on the proposed model (SWAM). A hedonic and utilitarian scale was adopted from a previous study (the HED/UT scale; Voss et al., 2003). Voss et al. developed the HED/UT scale and established the unidimensionality, reliability, and validity of the scale by conducting six different studies. The HED/UT scale was used to examine consumers' overall brand/product attitudes. The scale consists of ten semantic differential response items (five items for hedonic and five items for utilitarian dimensions). The hedonic dimension captures consumers' evaluation about a brand/product with regard to the fun or pleasure of a product use. The utilitarian dimension is related to consumers' evaluation about the function performed by the product (Batra & Ahtola, 1990; Voss et al., 2003).

In the present study, the HED/UT scale was used to identify a hedonic-oriented group and a utilitarian-oriented group among subjects by calculating and comparing an individual's mean scores on 5 hedonic items and 5 utilitarian items. If his/her mean score for 5 items on the hedonic dimension is greater than that on the utilitarian dimension, he/she is categorized into a hedonic group.

Field test

To purify the instrument, a panel of experts was provided with the definitions of each construct to be measured and asked to examine whether each item represents the content that it is supposed to measure. In addition to the items themselves, judgments

about the response format, the number of scale points, and the clarity of the instructions were established (Netemeyer, Bearden, & Sharma, 2003). Based on the recommendations from the panel, revisions were made to the scale.

Pilot study

After the revisions were made based on the field test, a pilot study was conducted prior to the main study at a large university in the Northwestern United States. The purpose of the pilot study was to verify the procedure and validate the instrument questionnaire. As Clark and Watson (1995) suggested that 100 to 200 subjects are appropriate for a pilot study, the researcher administered the survey instrument to 127 students who were enrolled in sport management classes from April 23 to 26, 2007. One hundred fifteen complete and usable cases were used for the pilot study data analysis. Since college students are one of the major segments among Internet users, and the academic major of these students (sport management) is closely related to sport, it would be appropriate to use them as pilot study subjects.

The data analysis of the pilot study included (a) Cronbach's alpha, (b) composite reliability, (c) average variance extracted (AVE), (d) item-to-total correlations, and (e) factor loadings and structure by using SPSS 13.0 version and EQS 6.1 version. Cronbach's alpha ranged between .82 (sport involvement) and .97 (perceived enjoyment), composite reliability between .85 (psychological commitment to a team: PCT) and .96 (perceived ease of use, usefulness, enjoyment, and intention), and average variance extracted between .38 (PCT) and .82 (perceived enjoyment). Most item-to-total correlations of question items of constructs met the suggested range (e.g., between .50 to .80; Netemeyer, Boles, & McMurrian, 1996). However, sport involvement had 2 items

(INV4 and INV7) with low item-to-total correlations. Also, the PCT showed 6 items (PCT1, PCT2, PCT3, PCT7, PCT9, and PCT13) with low item-to-total correlations.

For further examination of the data, an exploratory factor analysis (EFA) was conducted with principal axis factoring extraction method and promax oblique rotation method. This oblique rotation allows obtaining several theoretically meaningful factors (Hair, Anderson, Tatham, & Black, 1998). The result of EFA indicated that INV4, INV6, and INV7 had smaller factor loadings than the suggested value of approximately .525 and low communalities, which indicate the estimates of the shared, or common variance among the indicators (Hair et al., p. 112), and 7 items of the PCT also had low factor loadings (PCT1, PCT2, PCT3, PCT7, PCT9, PCT13, and PCT14).

After the analyses of the pilot study data, 16 items from the initial instrument with 52 question items were deleted and 36 items were included in the final survey instrument for the main study.

Samples of Main Study

The researcher employed a convenience sampling method and directly administered the instrument to students who were enrolled during the summer 2007 at a large university located in the Northwest region of the United States from April 30 through June 7, 2007. In addition to the measures of eight constructs, several other questions (e.g., a favorite sport-related website, age, and gender) were added to the main survey (see Appendix B). Of a sample of 368, a total of 337 subjects completed the survey instrument. The summary of characteristics of subjects is presented in Table 2. The sample consists of 198 (58.8%) males and 139 (41.2%) females. The majority of the

participants were 19 – 25 years old (80.4%), and Caucasian (White: 71.2%). The participants visited sport-related websites several times a month and spent around 30 – 45 minutes a month on average in this activity.

Data Analysis Procedures

The efficacy of the proposed model and the psychometric properties of the scale were analyzed using the Statistical Package for Social Science (SPSS) 13.0 and EQS 6.1. To test the efficacy of the proposed model, the researcher employed structural equation modeling (SEM), which includes investigations of both structural and measurement models. The structural equation modeling technique is an essential tool for identifying causal relationships between several constructs and is one in which separate multiple regression equations are estimated simultaneously (Hair, et al., 1998).

The first step of data analysis was to test the reliability of the measures. Reliability analysis is a measure of the internal consistency of indicators for a construct (Hair et al., 1998). The purpose of reliability analysis is to determine how well a set of items taps into some common sources of variance (Viswanathan, 2005), and is frequently measured with Cronbach's coefficient alpha. Cronbach's coefficient alpha is "the ratio of the sum of the covariances among the components of the linear combination (items), which estimates true variance, to the sum of all elements in the variance-covariance matrix of measures, which equals the observed variance" (Nunnally & Bernstein, 1994, p. 212). The minimum acceptable level of Cronbach's alpha coefficient is suggested as .70 (Hair et al., 1998).

Table 2. *Description of Participants (N = 337)*

Variables	Description	Frequency	Percent
Gender	Men	198	58.8
	Women	139	41.2
Age	19 – 20	57	17.0
	21 – 22	203	60.2
	23 - 25	51	15.2
	> 25	24	7.2
	Missing	2	0.6
Ethnicity	Caucasian (White)	240	71.2
	African-American	5	1.5
	Hispanic	9	2.7
	Asian-American	68	20.2
	Native American	6	1.8
	Others	6	1.8
	Missing	3	0.9
Sport web usage (Frequency)	Less than once a month	64	19.0
	About once a month	40	11.9
	2 or 3 times a month	78	23.1
	Several times a month	33	9.8
	About once a week	31	9.2
	Several times a week	42	12.5
	More than once a day	49	14.5
Sport web usage (Duration)	Less than 15 minutes a month	94	28.2
	15 – 30 minutes a month	108	32.0
	30 – 45 minutes a month	56	16.6
	45 – 60 minutes a month	21	6.2
	60 – 75 minutes a month	14	4.2
	75 – 90 minutes a month	7	2.1
	More than 90 minutes a month	36	10.7

The reliability of a scale can be also measured by examining composite reliability. Composite reliability is different from Cronbach's alpha in that it does not assume that the indicators will have equal weights (Chin, 1998) and should be greater than .70. Another reliability analysis is the average variance extracted (AVE). This analysis provides "the overall amount of variance in the indicators accounted for by the latent construct" (Hair et al., 1998, p. 612). The AVE value is recommended to exceed .50 for a construct; exceeding .50 indicates that more than 50% of the variance of the indicators is explained by the latent construct.

The second step was to test a full measurement model including all constructs of the sport web acceptance model (SWAM; see Figures 6). To establish construct validity, the researcher examined: (a) the relationship between the observable indicators (items) and their latent constructs (i.e., perceived ease of use, perceived usefulness, perceived enjoyment, perceived trustfulness, sport involvement, psychological commitment, intention to use a sport-related website, and actual web usage); (b) the critical ratio (C.R.) in each item; and (c) correlations between the eight constructs. A critical ratio (C.R.) is obtained by dividing the covariance estimate by its standard error. Using a significance level of .05, any critical ratio greater than 1.96 in magnitude for a two-tail test is statistically significant (Arbuckle & Wothke, 1998). The results of the measurement model test determine how well the indicators capture their specified constructs (Bollen, 1989; Hair et al., 1998). If the data is statistically significant in the measurement model, then the evidence indicates that the measurement scale, SWAS, is valid.

Overall goodness-of-fit measures include three criteria: absolute fit measures, incremental fit measures, and parsimonious fit measures. Absolute fit measures test the

degree to which the overall model predicts the observed covariance or correlation matrix, while incremental fit measures compare the proposed model to the null model.

Parsimonious fit measures determine the goodness-of-fit of the model to the number of estimated coefficients required to achieve this level (Hair et al., 1998).

The third step was to test the structural model (see Figure 5). The results of the structural model test determine the causal relationships that were hypothesized between the eight constructs. If the data is statistically significant in the structural equation model, then the evidence indicates that the proposed model of sport web acceptance (SWAM) is valid.

The final step included analyses of moderating effects of different groups (hedonic-oriented and utilitarian-oriented groups, and men and women's groups) on the proposed model. Group differences were examined by conducting multi-group analyses with structural equation modeling analyses.

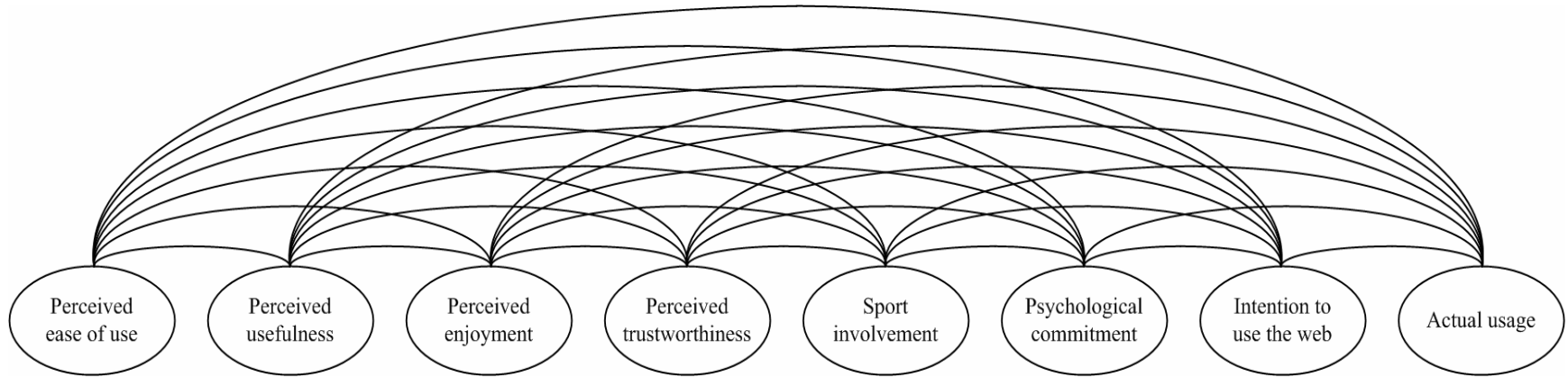


Figure 6. Measurement Model

CHAPTER FIVE

RESULTS

This chapter presents the findings of the present study and consists of four sections. In the first section, the results of the measurement models are provided. Next the reliability and validity of the measurement scale are presented. In the third section, the results of structural model tests are discussed followed by the results of hypothesis tests. In the last section, the researcher examined the moderating effects of hedonic and utilitarian groups, and gender on the proposed model (SWAM) by conducting multi-group analyses with the structural equation modeling method.

Measurement Model Tests

In order to test the factor structure rigorously, a full measurement model test with a confirmatory factor analysis was conducted. The combined data was checked for skewness and kurtosis based on Mardia's coefficient of multivariate kurtosis (Mardia, 1970). Examination of multivariate kurtosis for the measure variables (Mardia's coefficient = 399.18 and normalized estimate = 62.23) indicated that multivariate kurtosis assumption was violated, and thus, chi-square may be overestimated, and fit indices and standard error of parameter estimates may be underestimated (Bigné, Andreu, & Gnoth, 2005; Dubé, Cervellon, & Jingyuan, 2003; Hoyle, 1995). Thus, for the correction of the violation, the present study provided the results of the robust model by reporting the Satorra-Bentler Scaled chi-square (S-B χ^2), robust comparative fit index (Robust CFI), and other fit indices. In addition, because the result of the measurement model analysis

showed low factor loadings of INV2, INV4, INV6, and INV10 within the proposed measurement structure, a measurement model 2 and a structural model 2 without these four indicators were also examined.

Three measures of absolute fit were examined: (a) the likelihood-ratio chi-square statistic (χ^2); (b) the root mean square error of approximation (RMSEA); and (c) the standardized root mean square residual (SRMR). The higher the value of likelihood-ratio chi-square statistic, the worse the proposed model fits to the data (Kline, 2005). For the measurement model 1 (M1), which included all measure items, the value of the likelihood-ratio chi-square statistic had 1079.86 chi-square and 566 degree of freedom, and was statistically significant at $p < .00000$, and 785.05 and 436 for the measurement model 2 (M2), which excluded items with low factor loadings.

The RMSEA tests the amount of error of approximation per degree of freedom and takes sample size into account (Kline, 2005). A suggested value for the RMSEA is .05 to .08 for an acceptable model and less than .05 for a good model (Hair et al., 1998, p. 656). In the present study, the RMSEAs were .052 for the M1 and .049 for the M2. Therefore, the measurement models fit to the data well.

The SRMR indicates the mean absolute correlation residual, which is the overall difference between the observed and predicted correlations, and less than .10 is recommended (Kline, 2005). The SRMRs of the measurement models were found to be acceptable (.050 for the M1 and .049 for the M2).

Next, incremental fit measures were examined with the normed fit index (NFI), the non-normed fit index (NNFI), and the comparative fit index (CFI). The NFI is a relative comparison of the proposed model to the null model, and the suggested value

is .90 or higher (Hair et al., 1998). The NNFI combines a measure of parsimony into a comparative index between the proposed model and null models, and the suggested value is .90 or higher. The CFI examines the relative improvement in fit of the proposed model compared with the null model and a value of .90 or higher is recommended (Kline, 2005).

The results of the measurement model tests showed that these three incremental fit measures were found to be acceptable as .87 and .90 of the NFI, .93 and .94 of the NNFI, and .94 and .95 of the CFI for the M1 and the M2 respectively.

Finally, a parsimonious fit measure was tested with the normed chi-square (χ^2/df). The normed chi-square value is recommended between 1.0 and 2.0 (Hair et al., 1998, p. 623). The results of the measurement model tests showed 1.91(1079.86 / 566) and 1.80 (785.05/436) of the normed chi-square for the M1 and M2 respectively, which indicate an acceptable fit for the measurement model.

Reliability of the Scales

Scale reliability was examined by conducting a confirmatory factor analysis of the measurement model and through the analysis of Cronbach's coefficient alpha, composite reliability, and average variance extracted (AVE) measures (see Table 3). Cronbach's alpha estimates for constructs in the present study ranged between .75 (actual usage) and .96 (perceived enjoyment and intention). Composite reliability scores of latent constructs ranged between .76 (actual usage) and .96 (perceived enjoyment and intention) and exceed .70, the rule-of-thumb level (Fornell & Larcker, 1981). The AVE values ranged between .50 (sport involvement) and .84 (perceived enjoyment and intention). From the results of Cronbach's alpha, composite reliability, and AVE, it can

be concluded that all constructs measured in this study satisfactorily demonstrate reliability. Additionally, as the results of the reliability tests are consistent with those of the pilot study, more credence to the reliability was established. The summary of the results of the reliability analyses are presented in Table 3.

Validity of the Scales

Validity of a measure indicates how well the measure captures what it is intended to measure (Viswanathan, 2005). Three types of validity were examined to establish validity of measurement items: translation validity (e.g., content and face validity), criterion-related validity (e.g., convergent and discriminant validity), and nomological validity (Netemeyer et al., 2003).

Table 3. *Reliability of the Scales*

Construct	Cronbach's α	Composite Reliability	Average Variance Extracted	Number of Items
Sport Involvement	.91	.91	.50	10
Perceived Ease of Use	.93	.94	.78	4
Perceived Usefulness	.93	.93	.76	4
Perceived Enjoyment	.96	.96	.84	4
Perceived Trustworthiness	.92	.92	.75	4
Psychological Commitment to a Team	.91	.90	.71	4
Intention	.96	.96	.84	4
Actual Web Usage	.75	.76	.62	2

Translation validity includes content and face validity, which indicates the degree to which “a construct is translated into the operationalization of the construct” (Netemeyer et al., p. 72). Content and face validity were examined in the present study during the item generation phase and before the pilot study.

Criterion-related validity indicates the degree to which a measure in the present study performs by comparing the measure with another measure that has been validated in other studies. Because the present study adopted valid and reliable measures from previous studies, only convergent validity and discriminant validity were examined by conducting a measurement model test with a confirmatory factor analysis.

Convergent validity refers to the degree to which a measure correlates or converges with another measure of the same construct (Viswanathan, 2005). Evidence of convergent validity can be established when new measure items demonstrate high factor loadings on the same factors as the existing measures of previous studies (DeVellis, 1991; Netemeyer et al., 2003). Table 4 presents means, standard deviations, factor loadings, and critical ratios at $p < .05$ (i.e., greater than 1.96 of critical ratio) of indicators of constructs. Each measurement scale item’s loading on each factor was greater than the suggested value of .70 (Hair et al., 1998), except for 5 items: INV2 (.59), INV4 (.57), INV6 (.66), INV10 (.67), and USE2 (.69). Additionally, critical ratios of indicators of constructs ranged between 8.44 and 40.52, which are greater than the significant value, 1.96 at $p < .05$ (Hair et al., 1998).

In sum, convergent validity is established by high factor loadings in the present study. The results are consistent with those of previous studies (Davis, 1989; Hong et al., 2006; Moon & Kim, 2001; O’Cass & Fenech, 2003; Porter & Donthu, 2006; Voss et al.,

2003).

Discriminant validity refers to “the degree to which two conceptually similar concepts are distinct” (Hair et al., 1998, p. 118). To examine discriminant validity, two steps were involved. First, a correlation analysis between constructs measured was conducted. Discriminant validity is established when the estimated correlations between the factors or dimensions are not excessively high (e.g., $< .85$; Kline, 2005, p. 73). In the present study, correlations between constructs ranged between .28 (sport involvement and perceived ease of use) and .82 (perceived enjoyment and intention to use a sport-related website) and were not excessively high (e.g., $< .85$).

Second, a comparison of each construct’s average variance extracted estimate against the squared correlation between two constructs also provides additional evidence of discriminant validity. Each squared correlation should be smaller than the average variance extracted (Fornell & Larcker, 1981). All average variance extracted estimates are greater than the squared correlations (see Table 5). Based upon the results of the two discriminant analyses, it is concluded that the research constructs are distinct from each other.

Table 4. Means, Standard Deviations, Factor Loadings, and Critical Ratios of the Measure Items

Items	Mean	Standard Deviation	Loadings	Critical Ratio ($p < .05$)
INV1. Important ----- Unimportant	5.83	1.43	.74	-
INV2. Boring ----- Interesting	6.34	1.08	.59	8.45*
INV3. Relevant ----- Irrelevant	5.47	1.53	.74	14.76*
INV4. Exciting ----- Unexciting	6.15	1.45	.57	8.44*
INV5. Means to nothing ----- Means to a lot to me	5.85	1.33	.84	14.39*
INV6. Appealing ----- Unappealing	5.96	1.48	.66	11.31*
INV7. Fascinating ----- Mundane	5.86	1.38	.73	12.96*
INV8. Worthless ----- Valuable	5.95	1.24	.75	10.19*
INV9. Involving ----- Uninvolving	6.00	1.32	.73	11.54*
INV10. Not needed ----- Needed	5.88	1.33	.67	10.14*
PEU1. My favorite sport website is easy to use.	5.23	1.40	.90	-
PEU2. Learning to operate my favorite sport website is easy.	5.24	1.34	.93	30.51*
PEU3. My interaction with the website is clear and understandable.	5.26	1.33	.92	24.04*
PEU4. It is easy to interact with my favorite sport website.	5.20	1.28	.79	15.06*

Note: INV (sport involvement); PEU (perceived ease of use); * (significant at $p < .05$).

Table 4. Means, Standard Deviations, Factor Loadings, and Critical Ratios of the Measure Items (continued)

Items	Mean	Standard Deviation	Loadings	Critical Ratio ($p < .05$)
PU1. The website is useful for searching for sport-related information.	5.65	1.31	.85	-
PU2. The website improves my knowledge about sport.	5.56	1.31	.89	23.11*
PU3. The website enables my effectiveness in sport information searching.	5.38	1.24	.91	22.34*
PU4. My favorite sport website increases my productivity in searching for sport information.	5.29	1.27	.84	16.92*
PE1. Using my favorite sport website gives enjoyment to me.	5.09	1.33	.92	-
PE2. Using my favorite sport website entertains me.	5.16	1.41	.94	40.52*
PE3. It is fun to use my favorite sport website.	4.99	1.41	.92	33.04*
PE4. It is interesting to use my favorite sport website.	5.06	1.39	.89	23.76*
PT1. I believe in the information that the sport website provides me.	5.47	1.31	.76	-
PT2. My favorite sport website would be honest and truthful.	5.64	1.29	.90	16.03*
PT3. I would be able to trust my favorite sport website completely.	5.39	1.38	.91	14.40*
PT4. My favorite sport website will be sincere in its promises.	5.18	1.39	.90	13.75*

Note: PU (perceived usefulness); PE (perceived enjoyment); PT (perceived trustworthiness); * (significant at $p < .05$).

Table 4. Means, Standard Deviations, Factor Loadings, and Critical Ratios of the Measure Items (continued)

Items	Mean	Standard Deviation	Loadings	Critical Ratio ($p < .05$)
COM1. Being a fan of my favorite sport team is important to me.	5.59	1.50	.88	-
COM2. I am a committed fan of my favorite sport team.	5.47	1.50	.92	25.69*
COM3. It would be unlikely for me to change my allegiance from my favorite sport team to another.	5.61	1.43	.74	14.73*
COM4. It would be difficult to change my belief about my favorite sport teams.	5.45	1.46	.80	15.39*
INT1. I will use my favorite sport website on a regular basis in the future.	4.80	1.75	.91	-
INT2. I will frequently use my favorite sport website in the future.	4.72	1.73	.91	36.78*
INT3. Assuming I have access to the Internet, I intend to use my favorite sport website.	4.99	1.67	.93	30.21*
INT4. Given that I have access to the Internet, I predict that I would use my favorite sport website.	5.14	1.64	.92	25.72*
USE1. How frequently do you use your favorite sport website that you checked above?	3.74	2.06	.88	-
USE2. How much time you spend in using your favorite sport website that you checked above during a month?	2.75	1.88	.69	11.46*

Note: COM (psychological commitment to a team); INT (intention to use); USE (actual usage); * (significant at $p < .05$).

Finally, evidence of nomological validity is established when the empirical causal relationships that are examined in the present study follow the theoretical relationships derived from formal theories and also provide theoretical implications beyond formal theories, such as quantitative differences in a causal relationship or model modification (Netemeyer et al., 2003). The present study mainly adopted the conceptualization of the technology acceptance model (Davis, 1989) and modified the model by adding sport-specific constructs (i.e., sport involvement and psychological commitment to a team). In addition, the TAM was applied to online sport consumers so that the proposed model (SWAM) could provide theoretical gains beyond the original TAM, which explains system users' acceptance of technology such as word processing or spread sheet software. The structural model analysis and the hypothesis testing revealed that the proposed model (SWAM) partially supported the application of the TAM to the sport website context and ascertained significant differences in causal relationships (e.g., a low causal relationship between perceived usefulness and intention, and the moderating effects of hedonic and utilitarian groups as well as male and female groups on causal relationships). Therefore, evidence of nomological validity is also provided in the present study.

Table 5. *Correlations and Squared Correlations between Constructs*

	INV	PEU	PU	PE	PT	PCT	INT	USE
Sport Involvement	<u>.50</u>	.08	.15	.13	.11	.18	.20	.10
Perceived Ease of Use	.28	<u>.78</u>	.55	.53	.32	.27	.46	.28
Perceived Usefulness	.39	.74	<u>.76</u>	.58	.44	.36	.42	.17
Perceived Enjoyment	.36	.73	.76	<u>.84</u>	.34	.35	.67	.34
Perceived Trustworthiness	.33	.57	.66	.58	<u>.75</u>	.37	.32	.10
Psychological Commitment	.42	.52	.60	.59	.61	<u>.71</u>	.31	.13
Intention	.40	.68	.65	.82	.57	.56	<u>.84</u>	.44
Actual Usage	.31	.53	.41	.58	.31	.36	.66	<u>.62</u>

Note: The figures underlined represent AVE; Figures below the AVE line are the correlations between the constructs; Figures above the AVE line represent squared correlations between the constructs.

Table 6. *Goodness-of-Fit Indexes of Measurement and Structural Models*

	χ^2/df ratio	NFI	NNFI	CFI	SRMR	RMSEA
Measurement Model 1	1.91 (1079.86/566)	.87	.93	.94	.050	.052 (.047 - .057)
Measurement model 2	1.80 (785.05/436)	.90	.94	.95	.048	.049 (.043 - .054)
Structural Model 1	2.38 (1366.21/574)	.84	.89	.90	.182	.064 (.060 - .068)
Structural Model 2	2.03 (900.37/444)	.88	.93	.94	.132	.055 (.050 - .060)

Note: The measurement model 2 and the structural model 2 excluded indicators of INV2, INV4, INV6, and INV10.

Structural Model and Hypothesis Tests

Structural model 1 (S1), which included all measure items, and structural model 2 (S2), which excluded items with low factor loadings, had 1366.21 and 900.37 for the likelihood-ratio chi-square values respectively (see Table 6). The S1 had .064 for the RMSEA and the S2 had .055. The SRMRs of the two structural models were found to be relatively greater than the recommended value of .10 (.182 for S1 and .132 for S2).

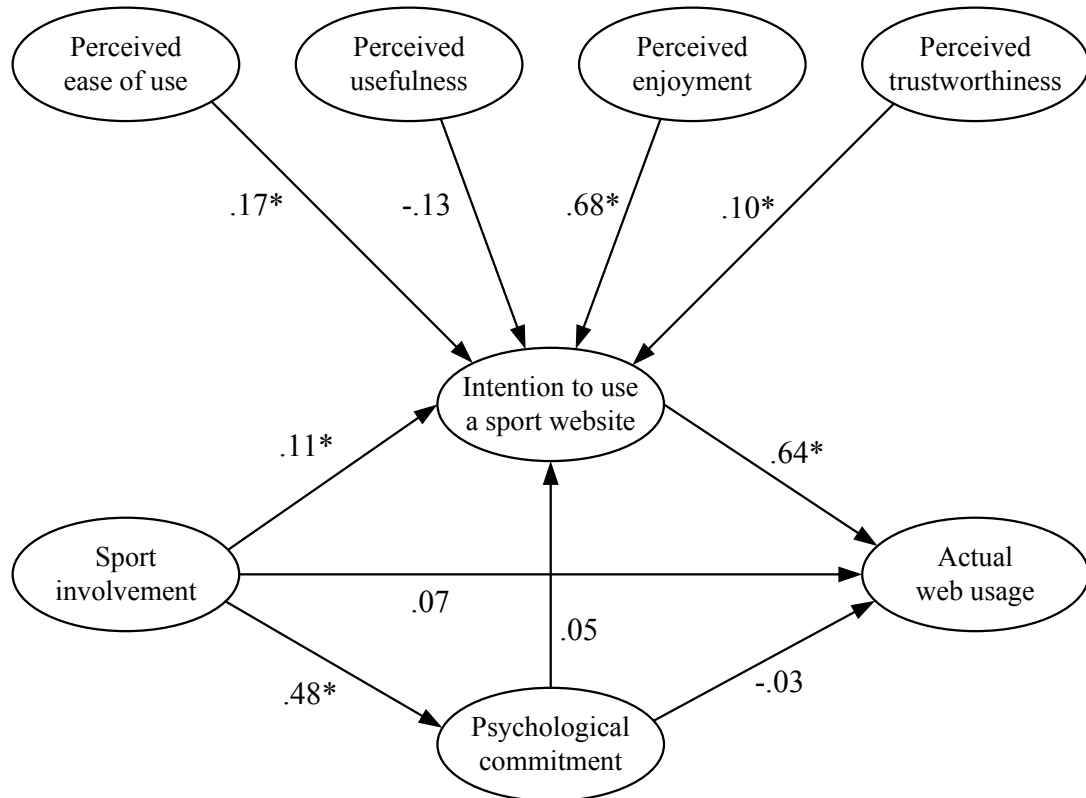
For the incremental fits, the structural model analyses presented .84 and .88 for the NFI, .89 and .93 for the NNFI, and .90 and .94 for the CFI. Thus, the structural models are marginally acceptable in terms of incremental fit measures.

In terms of the parsimonious fit measure, the results of the structural model tests showed the normed chi-squares of 2.38 (1366.21/574) for the S1, and 2.03 (900.37/444) for the S2, which are marginally acceptable.

As discussed in Chapter 3, the present study includes ten hypotheses (see Figure 5), which identify causal relationships between research variables. Each causal relationship between constructs is hypothesized based on the field of information systems, consumer behavior, and organizational behavior. The researcher used structural model 2 for the hypothesis tests, which did not include indicators of INV2, INV4, INV6, and INV10 due to their low factor loadings.

The hypotheses were examined by conducting a structural equation model analysis that allows for statistical significances of the path coefficients between constructs. Figure 7 shows the results of the structural equation model analysis. Of the ten hypotheses, six hypotheses were supported and four were rejected.

The first hypothesis examines the causal relationship between perceived ease of use and intention (*H1. A sport fan's perceived ease of use of a sport-related website will positively influence intention to use the website*). As shown in Figure 7, the standardized path coefficient was .17 (critical ratio of 2.42), which is statistically significant at the .05 level when a critical ratio is greater than 1.96. Therefore, the first hypothesis is supported and this result indicates that perceived ease of use positively influences intention to use a sport-related website.



Note: * (a significant path coefficient at $p < .05$)

Figure 7. The Results of Hypothesis Tests

The second hypothesis predicted a positive causal relationship from perceived usefulness to intention to use a sport-related website (*H2. A sport fan's perceived usefulness of a sport-related website will positively influence intention to use the website*). There was no significant causal relationship between these two constructs. This result indicates that perceived usefulness is not a direct predictor of intention in the present study.

The purpose of the third hypothesis was to evaluate the effect of perceived enjoyment on intention to use a sport-related website (*H3. A sport fan's perceived enjoyment of a sport-related website will positively influence intention to use the website*).

The result showed that there was a strong, positive effect of perceived enjoyment on intention with a .68 path coefficient at the .05 level (critical ratio of 10.30). Therefore, the third hypothesis was supported in the present study. This result indicates that perceived enjoyment is one of the best predictors of intention to use a sport-related website.

The fourth hypothesis was related to the effect of perceived trustworthiness on intention (*H4. A sport fan's perceived trustworthiness of a sport-related website will positively influence intention to use the website*). A significant effect from perceived trustworthiness on intention with a .10 path coefficient and critical ratio of 2.0 was found. The fourth hypothesis was supported but the effect is relatively small.

The fifth hypothesis examined the causal relationship between sport involvement and intention to use a sport-related website (*H5. A sport fan's involvement level in sport will positively influence intention to use a sport-related website*). The standardized path coefficient from sport involvement to intention was .11 (critical ratio of 2.22), which is significant. This result suggests that a sport fan who has a high involvement level in sport is more likely to use a sport-related website.

As shown in Figure 7, the sixth hypothesis (*H6. A sport fan's involvement level in sport will positively influence psychological commitment to a team*) was supported with a strong, significant path coefficient of .48 (7.83 critical ratio). This result indicates that sport involvement positively influences psychological commitment to a team.

The seventh hypothesis examined the effect of sport involvement on actual use (frequency and duration) of a sport-related website (*H7. A sport fan's involvement level in sport will positively influence actual sport-related website usage*). No significant path

coefficient was found (critical ratio of .83). From this result, it can be concluded that not all sport fans who have high levels of involvement in a particular sport frequently use a sport-related website.

The eighth hypothesis is related to a causal relationship between psychological commitment to a team and intention to use a sport-related website (*H8. A sport fan's psychological commitment to a team will positively influence intention to use a sport-related website*). This hypothesis was not supported as the path coefficient was .03 and critical ratio was 1.18. This result indicates that not all sport fans who have a high level of commitment to their favorite sport teams have an intention to use sport-related websites.

The ninth hypothesis predicted that *a sport fan's psychological commitment to a team will positively influence actual sport-related website usage*. There was no significant effect of commitment on actual usage. From this result, it is suggested that not all sport fans who have a high level of commitment to their favorite sport teams frequently use sport-related websites, nor do they spend much time using the websites.

The final hypothesis examined the effect of intention on actual usage (*H10. A sport fan's intention to use a sport website will positively influence actual sport-related website usage*). A strong and positive effect was found (a standardized path coefficient of .64 and critical ratio of 9.56). Therefore, the tenth hypothesis was supported.

Indirect Effects within the Proposed Model

All possible indirect effects were examined. Of seven indirect effects, two effects between perceived ease of use and actual usage through intention, and between

perceived enjoyment and actual usage through intention were statistically significant.

Table 7. *Indirect Effects within the Original Model (p < .05)*

Indirect relationships	Parameter estimates	Critical ratios
Sport involvement → Intention	.03	Insignificant.
Sport involvement → Actual usage	.12	Insignificant.
PCT → Actual usage	.05	Insignificant.
Perceived ease of use → Actual usage	.16	2.38
Perceived usefulness → Actual usage	-.14	Insignificant.
Perceived enjoyment → Actual usage	.64	6.72
Perceived trustworthiness → Actual usage	.12	Insignificant.

Note: PCT (psychological commitment to a team)

Development of a Competing Model

The results of the hypothesis tests showed relatively small effects of sport involvement and psychological commitment to a team (PCT) on intention and actual usage. These results indicate that potential mediating variables may exist between relationships. The researcher, therefore, modified the proposed model (SWAM) by allowing sport fans' beliefs about a sport-related website (i.e., perceived ease of use, perceived usefulness, perceived enjoyment, and perceived trustworthiness) as mediating variables between sport-specific constructs and their behavioral intention and web usage behaviors (see Figure 8). The major difference between the original model and the competing model is that the original model allows only for direct effects from sport

involvement and commitment on behavioral intention and actual usage behaviors, whereas the competing model examines indirect effects through sport fans' beliefs about sport-related websites.

The model comparison was examined with the following criteria: (a) overall model fit with the CFI; (b) the percentage of the model's hypothesized parameters that are statistically significant; (c) parsimony, as measured by the normed chi-square; and (d) the proportion of variance explained in each dependent variables by measuring the squared multiple correlations: SMC (Morgan & Hunt, 1994).

Each structural model test for the original model and the competing model revealed that the CFI (.91) for the competing model was smaller than that (.94) of the original model, which means the original model shows relatively more acceptable fit to the data. However, the percentage of hypotheses that were statistically significant in the original model was 60% (6 of 10 hypotheses), whereas the competing model had 71.4% (10 of 14). In terms of percentage, the competing model has more significant path coefficients.

Next, the comparison between the original model (2.03) and the competing model using the normed chi-square showed that the competing model (1.91) seems to be slightly more parsimonious.

The final basis for comparison is the proportion of variance explained in each dependent variable. In the original model, there were three dependent variables (psychological commitment to a team, intention, and actual web usage). The competing model had seven dependent variables (with the exception of sport involvement; see Table 8 and Figure 8). The squared multiple correlations for the original model demonstrate

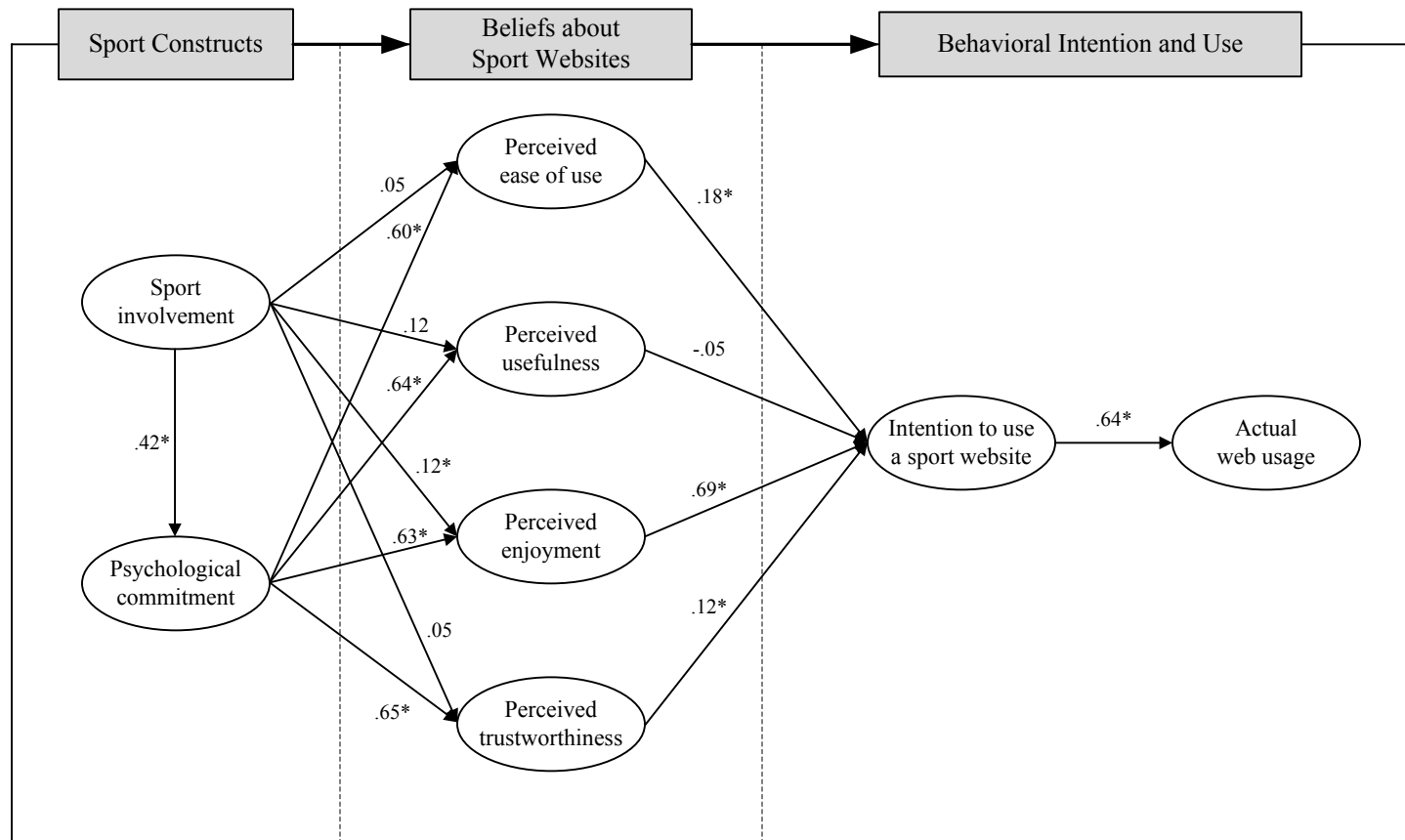
relatively more proportion of the variance explained in the constructs of psychological commitment to a team (20%), intention (71%), and actual usage (44%), compared to the competing model (18%, 69%, and 42% respectively). Even though the original model showed more proportion of the variance explained, more information about the variance relative to four sport fans' beliefs was presented in the competing model.

In sum, based upon four comparison tests, the competing model is slightly more parsimonious, showed more significant causal relationships between constructs, and presents more information about dependent variables than the original model. Thus, it is concluded that the competing model is more appropriate for explaining sport fans' acceptance of a sport-related website than the original model.

Table 8. Comparison between the Original Model and the Competing Model in Goodness-of-Fit Indexes

Criteria	Original Model	Competing Model
CFI	.94	.91
Number of hypotheses supported (%)	6 of 10 (60.0%)	10 of 14 (71.4%)
Normed chi-square	2.03 (900.37/444)	1.91 (1058.52/450)
Proportion of variance explained in dependent variables (the squared multiple correlation: SMC)	PCT (.20)	PCT (.18)
	Intention (.71)	Intention (.69)
	Actual usage (.44)	Actual usage (.42)
	N/A	PEU (.39)
	N/A	PU (.49)
N/A	PE (.48)	
N/A	PT (.46)	

Note: N/A (Four sport fans' beliefs were independent variables in the original model).



Note: * means a significant path coefficient at $p < .05$

Figure 8. A Competing Model

Indirect Effects within the Competing Model

Within the competing model, all possible indirect effects, except for the indirect effect of perceived usefulness on actual usage, were significant at $p < .05$. The indirect effect results within the competing model are presented in Table 9.

Table 9. *Indirect Effects within the Competing Model ($p < .05$)*

Indirect relationships	Parameter estimates	Critical ratios
Sport involvement → Perceived ease of use	.29	5.74
Sport involvement → Perceived usefulness	.27	5.56
Sport involvement → Perceived enjoyment	.30	6.14
Sport involvement → Perceived trustworthiness	.25	5.37
Sport involvement → Intention	.49	5.09
PCT → Intention	.71	11.45
Sport involvement → Actual usage	.37	4.84
PCT → Actual usage	.53	8.43
Perceived ease of use → Actual usage	.16	3.90
Perceived usefulness → Actual usage	-.05	Insignificant.
Perceived enjoyment → Actual usage	.66	9.71
Perceived trustworthiness → Actual usage	.15	2.64

Note: PCT (psychological commitment to a team)

Multi-Group Effects on the Sport Web Acceptance Model

This section provides the results of multi-group analyses to examine possible moderating effects of hedonic- and utilitarian-oriented users, as well as gender, on the relationships specified in the proposed model. In other words, the original SWAM model and the competing model are explored in terms of how they are perceived across a hedonic-oriented group and a utilitarian-oriented group, and by men and women.

A multi-group analysis allows us to simultaneously analyze a research model by using more than one group, as well as to examine whether the structural path coefficients between constructs are consistent across different groups. For the multi-group analyses, an unconstrained model (baseline model) is developed. The baseline model allows path coefficients to differ across groups. Also, a constrained model in which all path coefficients are allowed to be equal across groups is developed. To examine the difference in the path coefficients across groups (hedonic and utilitarian groups, and for men's and women's groups), the chi-square value of the constrained model was compared with that of the unconstrained model as suggested by Jöreskog and Sörbom (1993). If there is a significant chi-square difference, a moderating effect exists. The table of chi-square distribution provides significant chi-square differences at $p < .05$ or $p < .01$ according to degree of freedom.

Moderating effect of hedonic and utilitarian groups

Most subjects in the present study scored highly on both hedonic and utilitarian variables: mean scores of 5.13 for the hedonic group and 5.58 for the utilitarian group. The correlation between these two constructs was .70. This result indicates that sport-related websites can be classified into high hedonic and high utilitarian product categories

such as athletic shoes or television sets (Voss et al., 2003).

In order to split 337 subjects into a hedonic or a utilitarian group, mean scores of hedonic and utilitarian dimensions were compared. If a subject's mean score on the hedonic dimension was relatively greater than that on the utilitarian dimension, he/she was categorized into a hedonic-oriented group. If a subject scored relatively higher on the utilitarian dimension than on the hedonic dimension, he/she was grouped into a utilitarian-oriented group.

After the mean comparison, the hedonic-oriented group consisted of 80 subjects and the utilitarian-oriented group had 202 subjects (see Table. 10). Subjects ($N = 55$) who had the same mean on both dimensions were excluded from the moderating effect analysis.

Table 10. *Hedonic and Utilitarian Groups*

Group	Number (%)	Mean of Hedonic Variables	Mean of Utilitarian Variables
Hedonic group	80 (23.8%)	5.29	4.74
Utilitarian group	202 (59.9%)	4.94	5.91
Hedonic and utilitarian	55 (16.3%)	5.59	5.59
Total	337 (100%)	5.13	5.58

The first step was to develop a baseline model in which all path coefficients were not constrained across hedonic and utilitarian groups. The chi-square of the baseline model was 1326.65 ($df = 888$; $p = .00000$; see Table 11) for the original model and 1465.60 ($df = 900$, $p = .00000$) for the competing model. The model fits were marginally

acceptable for both the original model (NFI = .79; NNFI = .91; CFI = .92; SRMR = .138; and RMSEA = .056) and the competing model (NFI = .78; NNFI = .88; CFI = .94; SRMR = .115; and RMSEA = .047).

In the second step, all path coefficients in the original and the competing model were constrained. These constrained models were compared with the baseline models. The chi-square of the constrained original model was 1332.68 with degree of freedom of 898. The chi-square of the constrained competing model was 1499.23, with $df = 914$. The result of the chi-square difference test between the baseline model and the constrained model revealed that there was no significant group difference in the original model ($1332.68 - 1326.65 = \Delta \chi^2 = 6.03, df = 10, p > .05$).

However, since a significant chi-square difference was found in the competing model ($1499.23 - 1465.60 = \Delta \chi^2 = 33.63, df = 14, p < .01$), it was necessary to conduct further multi-group analyses to examine which path coefficients were different across hedonic and utilitarian groups.

A series of comparison models were tested by allowing each of 14 path coefficients to be freely estimated (see Table 11). The results of the chi-square tests showed that a moderating effect of hedonic and utilitarian groups on seven path coefficients was found to be significant. Among seven path coefficients, the causal relationship between psychological commitment to a team and perceived trustworthiness had the largest chi-square difference across hedonic and utilitarian groups ($\Delta \chi^2 = 17.39, \Delta df = 1, p < .01$). Each path coefficient in hedonic and utilitarian groups is presented in Figure 9.

Table 11. *Chi-Square Difference Tests of Hedonic and Utilitarian Groups in the Competing Model*

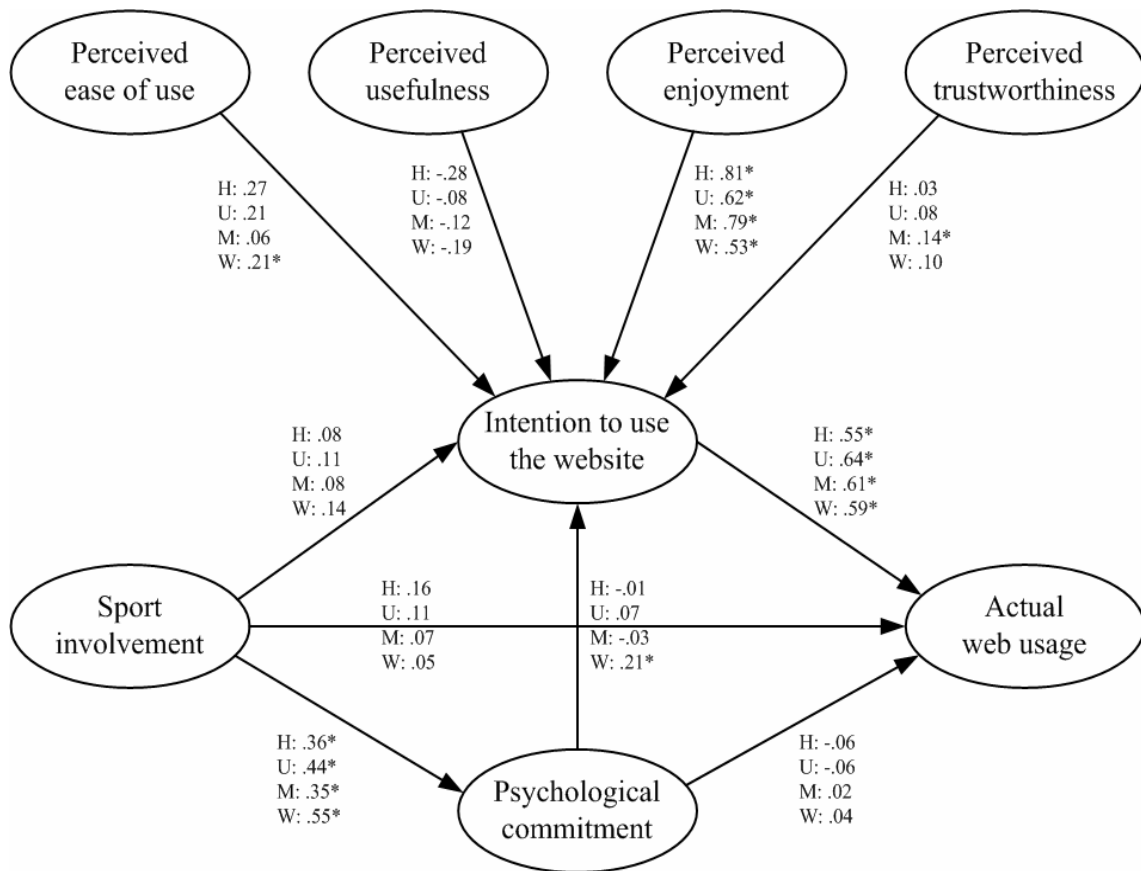
Constraints	Chi-square (χ^2)	Degree of freedom	Δdf	$\Delta \chi^2$
Baseline model	1465.60	900	-	-
All paths constrained	1499.23	914	14	33.63**
INV \rightarrow PCT	1466.15	901	1	0.55
INV \rightarrow PEU	1469.61	901	1	4.00*
INV \rightarrow PU	1470.25	901	1	4.65*
INV \rightarrow PE	1473.23	901	1	7.63**
INV \rightarrow PT	1467.77	901	1	2.17
PCT \rightarrow PEU	1471.76	901	1	6.15*
PCT \rightarrow PU	1478.45	901	1	12.85**
PCT \rightarrow PE	1480.23	901	1	14.63**
PCT \rightarrow PT	1482.99	901	1	17.39**
PEU \rightarrow INT	1465.67	901	1	-0.13
PU \rightarrow INT	1466.67	901	1	1.07
PE \rightarrow INT	1466.75	901	1	1.15
PT \rightarrow INT	1466.57	901	1	0.97
INT \rightarrow USE	1465.43	901	1	-0.18

Note: Δdf (change in degree of freedom); $\Delta \chi^2$ (chi-square difference); * ($p < .05$); ** ($p < .01$)

Moderating effect of gender on SWAM

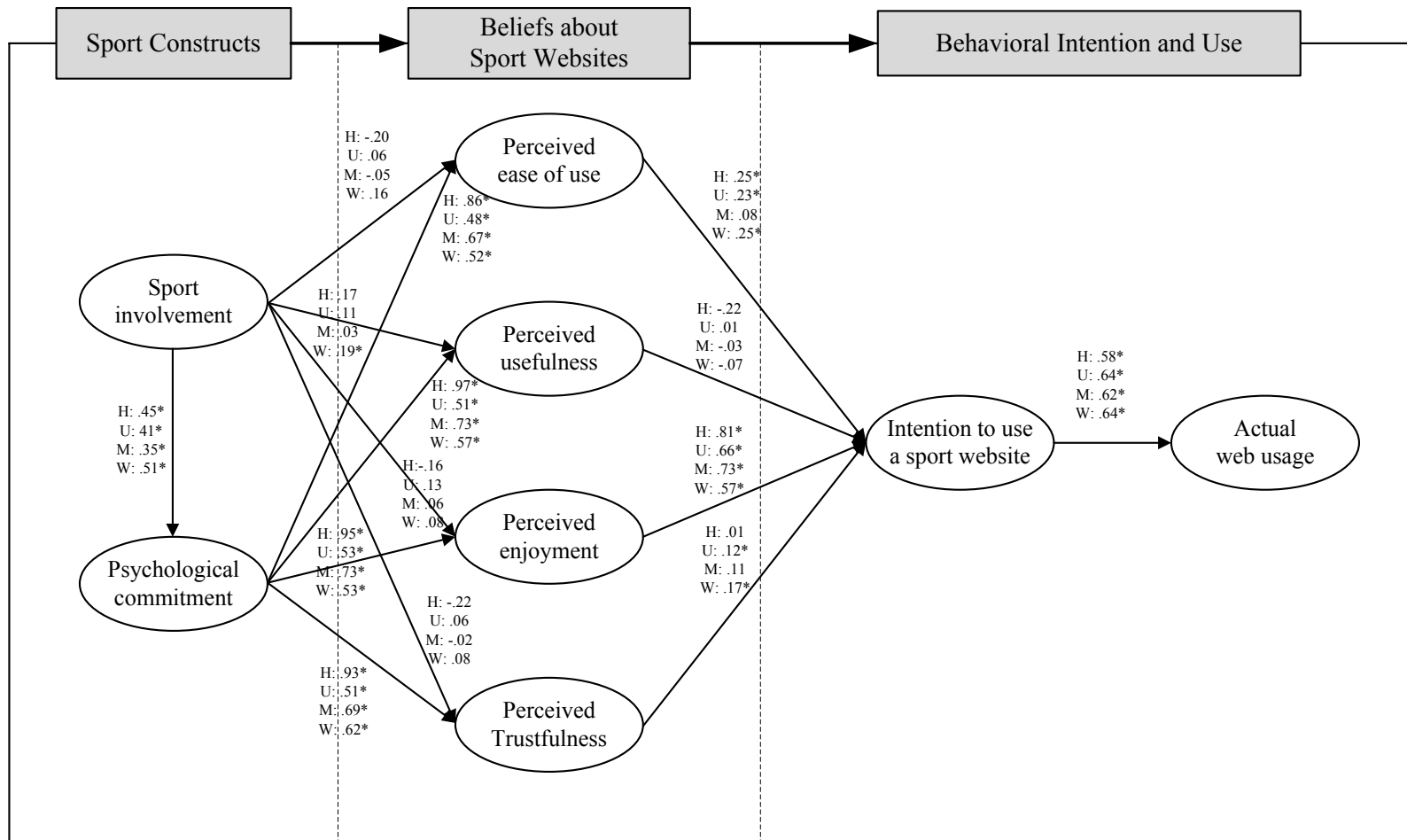
In order to examine the moderating effect of gender on SWAM, subjects were grouped into men ($n = 198, 58.8\%$) and women ($n = 139, 41.2\%$). Each baseline model was developed for the original and the competing models. The baseline model for the original model allowed 10 path coefficients between constructs to be freely estimated. The baseline model for the competing model allowed 14 path coefficients to be freely estimated. The model fit of the baseline model was $NFI = .82$, $NNFI = .92$, $CFI = .92$, $SRMR = .136$, and $RMSEA = .042$ for the original model, and $NFI = .78$, $NNFI = .89$, $CFI = .90$, $SRMR = .111$, and $RMSEA = .047$ for the competing model.

Next, the second model with all path coefficients constrained was developed. The results of the chi-square difference tests of the baseline models with those of the constrained models showed that no significant difference was found for either the original model ($1420.93 - 1406.45 = \Delta \chi^2 = 14.48, df = 10, p > .05$) or the competing model ($1590.39 - 1573.27 = \Delta \chi^2 = 17.12, df = 14, p > .05$). Therefore, it is not necessary to conduct further multi-group analyses for moderating effects of gender on the original model and the competing model. Path coefficients of men and women's groups are presented in Figures 9 and 10.



Note: * (a significant path coefficient at $p < .05$); H (hedonic group); U (utilitarian group); M (men's group); and W (women's group)

Figure 9. Path Coefficients across Groups in the Original Model



Note: * (a significant path coefficient at $p < .05$); H (hedonic group); U (utilitarian group); M (men's group); and W (women's group)

Figure 10. Path Coefficients across Groups in the Competing Model

Summary of Results

In Chapter 5, the data analysis focused on examining (a) the goodness-of-fit indexes for the measurement model and the reliability and validity of the measurement instrument, (b) the goodness-of-fit indexes for the structural model (SWAM) and hypothesis tests, (c) a proposition of a competing model, and (d) moderating effects of hedonic and utilitarian groups and gender on SWAM.

The reliability of the measurement instrument was tested by examining Cronbach's alpha, composite reliability, and average variance extracted, and was established because these three values were greater than suggested for each threshold. The evidence of the validity of the measurement model was proved by testing translation validity, criterion-related validity (convergent and discriminant validity), and nomological validity (Netemeyer et al., 2003).

The measurement and the structural model fits for the original model and the competing model were found to be acceptable, as most goodness-of-fit indexes were greater than each suggested threshold (e.g., CFIs of .94 for the measurement model, and .94 for the structural model).

In terms of hypothesis testing, six of ten hypotheses were supported in the original model. As the other four hypotheses were rejected, a competing model was provided to allow the mediating variables (four sport fans' beliefs about a sport-related website) to connect the relationships between sport-specific constructs and behavioral intention and use. The model fit for the competing model was also found to be acceptable and revealed that perceived ease of use, enjoyment, and trustworthiness are important mediator variables.

In the final section, moderating effects of hedonic and utilitarian groups and gender on hypothesized causal relationships between constructs are examined. The original and the competing models were consistent across men and women's groups. However, the moderating effect of hedonic and utilitarian groups on the competing model was significant. Further analyses revealed that there were seven significant differences in path coefficients (INV → PEU, INV → PU, INV → PE, PCT → PEU, PCT → PU, PCT → PE, and PCT → PT).

CHAPTER SIX

DISCUSSION

This chapter includes a study overview, discussion of the results, practical and academic implications, limitations and recommendations for future research.

A Study Overview

The present study proposed a theoretical model of sport web acceptance (SWAM). The overall objective of the present study was to contribute to the knowledge of how sport fans perceive and accept sport-related websites. The purposes of the present study included: (a) to provide a valid and reliable scale of sport web acceptance; (b) to develop and propose a theoretical model (SWAM) for explaining sport fans' use of sport-related websites; and (c) to examine the moderating effects of hedonic and utilitarian users and gender on the proposed model.

Two behavioral theories were used to develop the SWAM: the theory of reasoned action (Fishbein & Ajzen, 1975); and the technology acceptance model (Davis, 1989). In addition, two sport-specific constructs were incorporated into the SWAM: sport involvement (Shank & Beasley, 1998; Zaichkowsky, 1985) and psychological commitment to a team (Iwasaki & Havitz, 2004; Mahony et al., 2000). The SWAM was theorized to involve eight latent constructs: sport involvement, psychological commitment to a team, sport fans' beliefs about sport-related websites (i.e., perceived ease of use, perceived usefulness, perceived enjoyment, and perceived trustworthiness), intention to use websites, and actual use of websites (i.e., frequency and duration). The

present study considered sport involvement, psychological commitment to a team, and sport fans' beliefs as independent variables that were hypothesized to influence behavioral intention and actual usage behaviors (see Figures 5 and 7).

Next, the results of the original model and the competing model are discussed.

Sport Fans' Beliefs about Sport-Related Websites and Behavioral Intention

The proposed Sport Web Acceptance Model (SWAM) hypothesized four causal relationships (see Figure 5) between sport fans' beliefs about sport-related websites and intention to use the websites: (a) perceived ease of use → intention; (b) perceived usefulness → intention; (c) perceived enjoyment → intention; and (d) perceived trustworthiness → intention. Three out of these four hypotheses were supported in both the original model and the competing model.

Perceived ease of use and intention

The first hypothesis predicted the effect of perceived ease of use on intention. The results showed small but significant positive effects with path coefficients of .17 for the original model and .18 for the competing model. This result is consistent with prior studies (Lin & Wu, 2002; Venkatesh & Davis, 2000). The small effect of the perceived ease of use on intention can be explained by the belief that the Internet has become easier to use and online consumers have become more technologically savvy (Klopping & McKinney, 2004). This result can be explained by several studies that examined the effect of perceived ease of use on intention by focusing on non-online systems such as word processing or spreadsheet (Davis, et al., 1989; Adams, Nelson, & Todd, 1992). The authors compared this effect on early-adoption usage and 14 weeks later, post-adoption

usage, and found that perceived ease of use was a significant predictor of use in the early-adoption stage, but it became non-significant 14 weeks later. Since the Internet was introduced more than two decades ago, online consumers have become familiar with online systems. In particular, the subjects in the present study were undergraduate students who have more than three years of experience in using the Internet.

This effect (perceived ease of use → intention) can also vary according to the type of task. For example, perceived ease of use seems to be a more important predictor of intention when online consumers search for information about a product rather than when they purchase a product (Gefen & Straub, 2000; Koufaris, 2002). The sport-related websites examined in the present study mainly provide sport fans with sport information rather than with shopping opportunities. Therefore, the effect of perceived ease of use on intention in the present study supported the findings of the studies discussed above. Furthermore, the role of perceived ease of use on Internet portal sites (e.g., espn.com) should be emphasized rather than perceived usefulness, in order to attract potential users and retain current users (Lin & Wu, 2002).

Perceived usefulness and intention

The causal relationship between perceived usefulness and intention (Hypothesis 2) is inconsistent with the findings of previous studies which found a positive causal relationship between the constructs (Davis, 1989; Davis et al., 1989; Davis & Venkatesh, 1996; Klaus et al, 2003; Page-Thomas, 2006; Shih, 2004; Wang et al., 2003). These studies revealed a much stronger effect of perceived usefulness on intention than perceived ease of use on intention. In addition, although the subjects in the present study rated perceived usefulness relatively high (mean of 5.47), this score did not influence

behavioral intention to use a sport-related website.

The present study found a non-significant relationship between perceived usefulness and intention both in the original model and the competing model, whereas perceived ease of use positively influenced intention in both models. This result is consistent with several studies conducted in the online business environment. For example, Lin and Wu (2002) found that perceived ease of use is twice as significant as perceived usefulness in the context of Internet portal sites. Whereas prior TAM-related studies were conducted in a task-oriented and mandatory system use environment (e.g., word processing, spreadsheet, etc.), Internet portal sites involve a voluntary usage environment (Lin & Wu, 2002). E-commerce (e.g., Internet portal sites) involves more voluntary technology adoption than does a workplace. Such a voluntary technology adoption is different from a workplace adoption in that online consumers' perception of usefulness on an Internet portal site depends on their needs and purposes, whereas in a workplace end users use a technology system to seek a reward (e.g., salary) or follow social norms in a mandatory way (Klopping & McKinney, 2004).

Brown, Massey, Montoya-Weiss, and Burkman (2002) further support the argument of Lin and Wu (2002) and Klopping and McKinney (2004). The authors applied the TAM in a voluntary setting, and found a non-significant effect of perceived usefulness on behavioral intention and a significant effect of perceived ease of use on behavioral intention. Because the present study focused on sport-related websites in which sport fans voluntarily visit the sport-related websites, the results of the present study are quite understandable.

Perceived enjoyment and intention

Among four sport fans' beliefs, perceived enjoyment was the strongest significant determinant for intention (path coefficients of .68 for the original model and .69 for the competing model). This result supports previous studies which revealed that perceived enjoyment is one of the key factors in determining end users' acceptance of systems (Davis et al., 1992; Igbaria, Schiffman, & Wieckowski, 1994; Moon & Kim, 2001).

Atkinson and Kydd (1997) found interesting results about the effects of perceived playfulness, which is a similar concept to enjoyment, ease of use, and usefulness, on World Wide Web (WWW) usage behaviors according to course-related purposes and entertainment purposes. The authors reported that perceived usefulness was only a predictor of WWW usage behavior for course-related purposes, whereas for entertainment purposes, perceived enjoyment and ease of use were predictors of usage.

Although sport itself may sometimes be a task-oriented product, spectator sport such as television or sport websites is more likely to have an entertainment aspect. Therefore, the results of the present study support the findings of prior studies conducted in a voluntary and entertainment website environment. In addition, the results of the present study indicate that online sport fans are more likely to have an intention to use a sport-related website when they perceive enjoyment and fun from the website.

Perceived trustworthiness and intention

There was a positive and significant effect of perceived trustworthiness on intention (path coefficient of .11 for the original model and .12 for the competing model). This result supported the findings of prior studies on the TAM and perceived trust (Bart

et al., 2005; Gefen et al, 2003b; Grabner-Kräuter & Kaluscha, 2003; Reichheld & Schefter, 2000; Rousseau et al., 1998). Even though these previous studies mainly focused on trustworthiness in online retailer and online shopping behaviors, sport fans' beliefs about sport information and integrity provided by sport-related websites have been found in the present study to be significant predictors of future intentions to visit the websites. The small effect found in the present study is expected to increase if the proposed model is applied to sport fans' purchasing behaviors in the online context. In addition, the reputation of sport-related websites may influence perceived trustworthiness (Pavlou, 2003). Therefore, future studies may include a sport website's reputation as a predictor of trustworthiness.

Sport Involvement and Psychological Commitment to a Team, and Intention and Actual Web Usage

The fifth through tenth hypotheses examined the causal relationships between sport involvement, psychological commitment to a team (PCT), and intention and actual usage behavior. Among six hypotheses in the original model (see Figure 7), three hypotheses were supported: sport involvement \rightarrow intention (path coefficient of .11, at $p < .05$); sport involvement \rightarrow psychological commitment to a team (.48, at $p < .05$); intention \rightarrow actual usage (.64, at $p < .05$). Because direct effects of sport involvement and PCT on actual usage (H7 and H9) were not significant, another variable (e.g., beliefs about sport websites) may mediate these relationships. From the results, it is concluded that levels of sport involvement and PCT do not determine actual usage of a sport-related website, but sport involvement indirectly influences actual usage through intention.

Because the present study focused on sport-related portal websites (e.g., espn.go.com, foxsports.com, etc.), one possible interpretation of the non-significant relationships from PCT to intention and actual usage is that sport fans who have a high level of PCT may more frequently and directly visit their favorite teams' website rather than the portal websites. In future research, further validation of this causal relationship with a sport team's website may provide more information about the relationship.

As predicted, the effect of sport involvement on PCT was strong and positive with a path coefficient of .48 for the original model and .42 for the competing model. This result is consistent with prior studies of the involvement and commitment literature in which the correlation between involvement and commitment was high (Crosby & Taylor, 1983; Iwasaki & Havitz, 1998, 2004; Kyle and Mowen, 2005). However, a path coefficient of .48 indicates that not all sport fans who get highly involved in sport show a high level of psychological commitment to a team.

The effect of intention on actual usage was significant with a path coefficient of .64 for both the original model and the competing model, at $p < .05$. As prior TAM-related studies have consistently revealed a strong causal relationship between intention and actual usage, the result in the present study is consistent with the findings of prior studies (Gefen & Straub, 1997; McKechnie et al., 2006; Moon & Kim, 2001; Venkatesh & Davis, 2000).

A Competing Model

Because the direct effect of sport involvement on actual usage was not significant, and the direct effects of PCT on intention and actual usage were also not

significant, a competing model was proposed in order to examine the role of sport fans' beliefs about sport-related websites as mediating variables, which may help to explain the non-significant relationships.

Overall model fit of the competing model was acceptable ($\chi^2/df = 1058.52/450 = 1.91$, NFI = .86, NNFI = .91, CFI = .91, SRMR = .115, and RMSEA = .063). The major advantage of the competing model over the original proposed model is that the competing model allows for examination of indirect effects of PCT on intention and actual usage through perceived ease of use, usefulness, enjoyment, and trustworthiness. The path coefficients from PCT to perceived ease of use, usefulness, enjoyment, and trustworthiness were .60, .64, .63, and .65 respectively, which were all significant at $p < .05$. Thus, it is concluded that PCT indirectly affects intentions and actual usage when the four beliefs mediate the relationships. As shown in Table 9, with the exception of the indirect effect from perceived usefulness on actual usage, the roles of the mediating variables are significant and important for behavioral intention and actual usage behavior. Therefore, perceived ease of use, enjoyment, and trustworthiness are important factors in that these beliefs link the relationship between sport fans who have psychological commitment to their favorite sport teams with intention to visit sport-related websites and actual visiting behaviors.

Within the competing model, the influences of sport involvement on the four beliefs were not significant except for perceived enjoyment (.12 at $p < .05$; see Figure 8). These insignificant causal relationships become significant when PCT is mediating these relationships. In other words, sport involvement indirectly influences the four beliefs (i.e., perceived ease of use, usefulness, enjoyment, and trustworthiness) through PCT. In

addition, sport involvement indirectly influences intention (with a regression weight of .49), and actual usage (with .37 through PCT and perceived ease of use, usefulness, enjoyment, or trustworthiness). Psychological commitment to a team also indirectly influenced intention (with a regression weight of .71) and actual usage (with .53). Based on these results, sport fans' beliefs are demonstrated to be mediating variables. For the indirect effect of sport involvement on actual usage, PCT and one of the beliefs (i.e., perceived ease of use, usefulness, enjoyment, and trustworthiness) along with intention, mediates the relationship.

In sum, sport involvement cannot be a direct predictor for actual usage behavior but it can indirectly affect usage behavior through mediating variables. Therefore, in the present study, sport fans' beliefs were found to be important factors to explain the effect of sport involvement on intention and actual usage. In addition, the comparison analysis between the original model and the competing model revealed that the competing model outperformed the original model in explaining sport fans' acceptance of sport-related websites.

Moderating Effects of Hedonic and Utilitarian Groups and Gender on SWAM

To further support the usefulness and validity of the original model and competing model, the researcher conducted multi-group analyses with structural equation analyses by examining the moderating effects of hedonic and utilitarian groups and men and women's groups. Moderating effects were identified with chi-square difference tests. These analyses identify the difference in the chi-square between the baseline model (all paths to be freely estimated) and the constrained model (all paths to be constrained)

across hedonic and utilitarian groups and men and women's groups.

Conducting a multi-group analysis across the hedonic group ($N = 80$) and the utilitarian group ($N = 202$), resulted in a finding of no significant chi-square difference between the baseline model and the constrained model for the original model. Therefore, it is concluded that the original model is invariant across hedonic and utilitarian groups.

For the competing model, a significant chi-square difference was found between the baseline model and the constrained model ($\Delta \chi^2 = 33.63, df = 14, p < .01$). Further multi-group analyses revealed that 7 of 14 path coefficients were significantly different across the hedonic group and the utilitarian group (see Table 11 and Figure 10).

Significant path coefficient differences were found between sport specific constructs (sport involvement and psychological commitment to a team) and sport fans' beliefs. Three significant chi-square differences in the relationships between sport involvement and the beliefs were found. However, as these three path coefficients of both hedonic and utilitarian groups were not statistically significant, it is difficult to interpret the differences.

All four paths from PCT to the beliefs (i.e., perceived ease of use, usefulness, enjoyment, and trustworthiness) significantly differed according to the hedonic group and the utilitarian group. These four path coefficients are significantly greater in the hedonic group than in the utilitarian group. This result indicates that the four beliefs are more important factors for the hedonic group than the utilitarian group.

There was no overall group difference between men and women for either the original model or the competing model. However, in the original model, the effect of perceived enjoyment on intention and the effect of psychological commitment to a team

on intention were different across men and women's groups. The effect of perceived enjoyment on intention in the men's group was significantly greater than that of the women's group, indicating that men are more likely than women to perceive enjoyment as an important factor for intention. In other words, perceived enjoyment tends to increase intention to use a sport-related website for men more than women.

The effect of PCT on intention in the women's group was greater than that for the men's group, in which there was no significant path. In addition, the effect of sport involvement on intention was not significant in the women's group. From these two results, it is concluded that women who have high commitment to their favorite teams are more likely to visit sport-related websites than men.

Implications of the Study

Practical implications

The present study contributes to the understanding of sport fans' perception and acceptance of sport-related websites and provides a practical marketing tool for evaluating the likelihood of their behavioral intention to use the websites and actual visiting behaviors. The major findings of the present study are as follows.

First, among sport fans' beliefs (perceived ease of use, usefulness, enjoyment, and trustworthiness), perceived enjoyment is the most important factor for behavioral intention to use sport-related websites and actual usage. Although sport-related websites contain useful sources for sport fans' favorite teams' information with regard to game scores, player statistics, game schedules, etc., sport fans are more likely to visit the websites when they feel they can experience fun and enjoyment from the websites. As

there was no significant effect from perceived usefulness, and small direct effects from perceived ease of use and trustworthiness on future behavioral intention, it seems that useful information about sport, search or navigation tools, and trustworthy information are not major issues for users of sport-related websites; however, enjoyable content attracts sport fans online. Therefore, sport website managers need to focus more on how to provide enjoyable content to sport fans. For example, NFL.com provides some enjoyable content that includes (a) cheerleaders' gallery content in which fans can vote for their favorites, (b) weekly quizzes with prizes, (c) interviews with star players, (d) NFL rules for beginners, and (e) previews of televised games. Another example is video highlights of games that are currently presented on ESPN.com. These types of enjoyable content should be provided on sport-related websites in order to retain sport fans online and attract potential users.

Second, although sport involvement directly influenced intention to use a sport-related website, it did not directly affect actual usage. Also, psychological commitment to a team did not directly influence either intention or actual usage. These two sport-related constructs are more likely to indirectly influence behavioral intention and actual usage through sport fans' beliefs about sport-related websites (perceived ease of use, perceived enjoyment, and perceived trustworthiness), according to the results of the competing model analysis. Therefore, sport fans' beliefs about the websites need to be emphasized for a further increase of sport fans' future intention and actual usage behaviors. Sport marketers should realize that in the online sport consumption context, these beliefs serve as links between sport fans who have high involvement levels in sport and high levels of commitment to a team, and intention and usage behaviors.

Third, sport-related websites can be categorized into a high hedonic and high utilitarian product according to the classification of product categories on hedonic and utilitarian dimensions (Voss et al., 2003; see Appendix A). In other words, most subjects in the present study seek both hedonic value and utilitarian value from sport-related websites. Hedonic value indicates that consumers seek potential entertainment and emotional worth (Bellenger, Steinberg, & Stanton, 1976). Hedonic value is derived from sensations, which are influenced by the experience of using products, whereas utilitarian value is derived from functions and performance of products (Voss et al., 2003). Therefore, sport marketers should provide both hedonic and utilitarian value on sport-related websites.

Academic implications

The population of online sport consumers has increased and most sport-related organizations have utilized their websites as a marketing tool. However, few empirical studies have been conducted to understand sport fans' adoption of sport-related websites. Although some scholars have paid attention to online sport business, their studies have focused on content analysis and demographic profiles of online sport consumers; there has been little research applying consumer behavior theories to online sport consumer behavior. The present study is expected to contribute to filling this gap in the current literature (e.g., sport management and management information systems).

In order to accomplish this goal, the technology acceptance model has been supplemented with sport-specific constructs (sport involvement and psychological commitment to a team) and applied to the sport website environment. This conceptual framework may become a fundamental base for understanding sport fans' online

consumption behaviors. In particular, it provides information about how sport fans perceive and accept sport-related websites, and how their involvement level in sport and commitment to a team influence their intention to use the websites and are related to actual usage.

In addition, as the TAM has mainly focused on work or mandatory system use environments, the present study extends TAM-related research by applying the model to the entertainment or sport field.

Limitations and Recommendations for Future Research

The present study has several limitations. First, the researcher utilized a convenience sampling method. The majority of subjects who participated in the survey were undergraduate students at a large university in the Northwest United States. Most subjects were computer literate and Internet-savvy, and highly involved in sport. The conceptual model was examined with these samples. Even though the model fits to the data well, further studies are necessary to confirm the factor structure and the causal relationships between constructs by using a broader sample in order to increase generalizability of the research findings.

Second, the present study focused on sport fans' perception about sport-related websites, particularly sport web portal sites such as espn.go.com, sportslines.com, foxsports.com, etc. Model fits and path coefficients might differ across different contexts of website usage. Therefore, future studies may examine sport consumers' behavior on different types of websites such as online sport-related shops, sport teams' websites, or fantasy league websites.

Third, in the present study, only two sport-related constructs (i.e., sport involvement and psychological commitment to a team) were incorporated into the technology acceptance model (Davis, 1989). Future research using other sport-related constructs (e.g., sport spectators' motivation, satisfaction or quality perceptions) may further improve our understanding of online sport consumption behavior.

Lastly, in the present study, two moderating variables were examined: hedonic and utilitarian dimensions and gender. Further research may investigate the moderating effects of other research variables (e.g., self-efficacy of using the Internet, or heavy and light Internet users) on the proposed model. When additional moderating effects on the proposed model are examined, there can be more insights about effective marketing strategies for sport-related websites.

Conclusion

The purpose of the present study was to develop a sport web acceptance model in which sport fans' decision-making processes regarding the use of sport websites are conceptualized. The proposed research model incorporated existing models of (a) the theory of reasoned action (TRA: Fishbein & Ajzen, 1975), (b) the technology acceptance model (TAM: Davis, 1989; Davis et al., 1989), and (c) a conceptual framework that examined theoretical relationships among involvement, commitment, and loyalty (Iwasaki & Havitz, 2004). In addition, the new research model (SWAM) integrates sport involvement and psychological commitment to a team.

The measurement and the structural model fits were found to be acceptable as most goodness-of-fit indexes were greater than each suggested threshold. Because the

results of the hypothesis tests revealed that there may be mediating variables between sport-specific constructs and intention and actual usage behaviors, a competing model was proposed. The model fit of the competing model was also found to be acceptable.

In the final section, moderating effects of hedonic and utilitarian groups and gender on the proposed model were examined. The proposed model (SWAM) was invariant across gender. However, the competing model showed that there were significantly different path coefficients across hedonic and utilitarian groups.

The findings of the present study revealed that sport fans' beliefs (i.e., perceived ease of use, perceived usefulness, perceived enjoyment, and perceived trustworthiness) about a sport-related website are important as mediating variables between sport-specific constructs and intention and actual web usage.

Future research should include more sport-specific constructs and psychological variables with a broader sample in order to confirm the factor structure of the proposed model (SWAM) and provide further information about sport fans' behavior in the online context.

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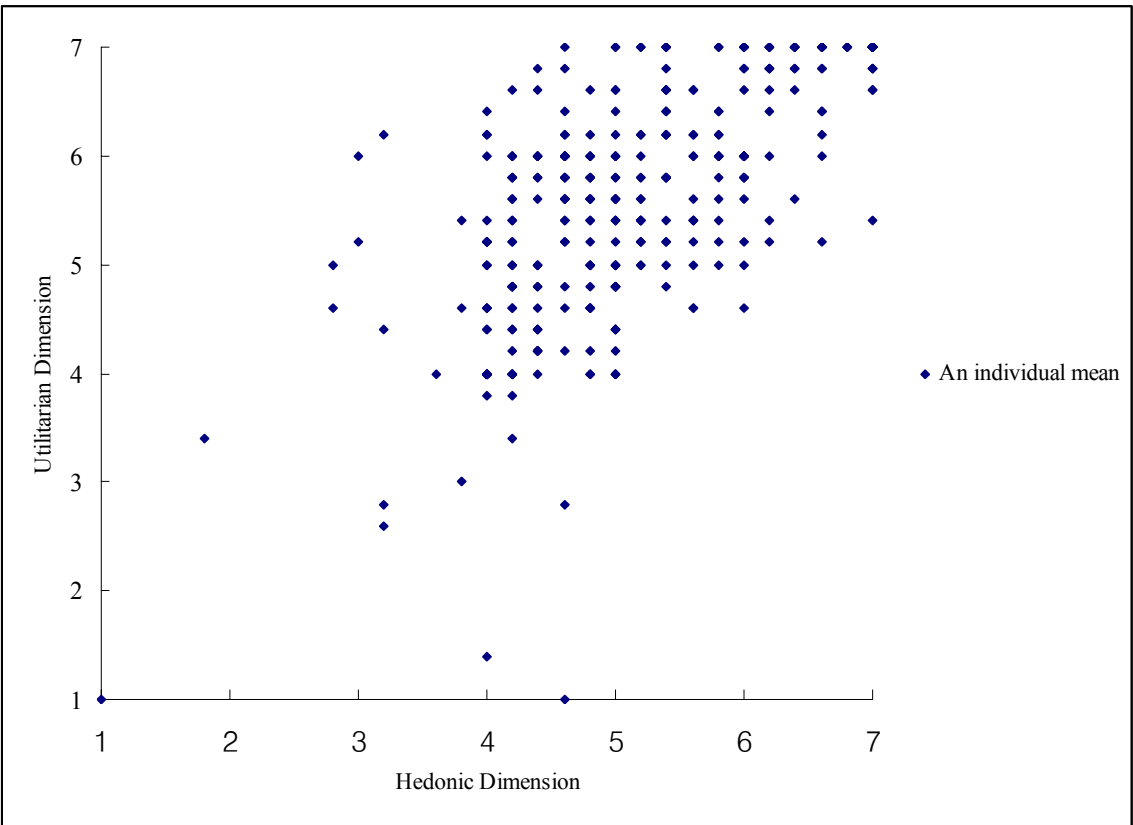
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APPENDIX A

Distribution of Hedonic and Utilitarian Dimensions



APPENDIX B
Survey Instrument

May 15, 2007

Dear participants:

This study examines sport fans' acceptance of sport-related websites. It would be greatly appreciated if you would simply complete the enclosed questionnaires. Your participation is entirely voluntary. WSU IRB has reviewed and approved the study for human subject participation.

DO NOT include your name or identification number on the survey instrument. Individual responses will not be identified or reported. Any discussion of results will be based on group data. It is estimated that the questionnaire will take approximately 5-10 minutes to complete. Upon completion, return the questionnaire to the person who asked you to fill it out. You can refuse to answer any questions and withdraw from completing the questionnaire at any time.

Please feel free to contact us if you have any questions or concerns. Thank you.

Sincerely,

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- How old are you? : _____
- What is your gender? : ____ Male ____ Female
- Ethnic background: _____ (1) Caucasian/White _____ (4) Asian-American
 _____ (2) African-American _____ (5) Native American
 _____ (3) Hispanic _____ (6) other, Please specify: _____
- What is your most favorite sport? Please check (√) **only one** of the followings.
 1) Baseball _____, 2) Basketball _____, 3) Football _____, 4) Hockey _____, 5) Golf _____,
 6) Tennis _____, 7) Soccer _____, 8) Softball _____, 9) NASCAR _____,
 10) Volleyball _____ 11) Swimming _____, 12) Others _____ (please specify _____)

Please choose (**circle**) the response (a number from 1 to 7) that best reflects your level of agreement with the following statements.

(Sport Involvement)

To me, the sport that I chose above is :

- | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|-------------------|
| • important | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unimportant |
| • boring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | interesting |
| • relevant | 1 | 2 | 3 | 4 | 5 | 6 | 7 | irrelevant |
| • exciting | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unexciting |
| • means nothing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | means a lot to me |
| • appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | unappealing |
| • fascinating | 1 | 2 | 3 | 4 | 5 | 6 | 7 | mundane |
| • worthless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | valuable |
| • involving | 1 | 2 | 3 | 4 | 5 | 6 | 7 | uninvolving |
| • not needed | 1 | 2 | 3 | 4 | 5 | 6 | 7 | needed |

- Which is **your most favorite sport website** to obtain the information about your favorite sport? Please check (√) **only one** of the followings. The following questions are related to this sport website.

- | | |
|--|--------------------------|
| 1) _____ AOL Sports (sports.aol.com) | 2) _____ MLB.com |
| 3) _____ CBS SportsLine.com (cbs.sportsline.com) | 4) _____ NFL.com |
| 5) _____ ESPN (espn.com) | 6) _____ NASCAR.com |
| 7) _____ Fox Sports (msn.foxsports.com) | 8) _____ NCAA.com |
| 9) _____ SI.com (sportsillustrated.cnn.com) | 10) _____ WSUCougars.com |
| 11) _____ Yahoo! Sports (sports.yahoo.com) | 12) _____ NHL.com |
| 13) _____ NBA.com | |
| 14) _____ Others (please specify _____) | |

(Actual Web Usage)

- How frequently do you use **your favorite sport website that you checked above?**
 - _____ Less than once a month
 - _____ About once a month
 - _____ 2 or 3 times a month
 - _____ Several times a month
 - _____ About once a week
 - _____ Several times a week
 - _____ More than once a day
- How much time do you spend in using **your favorite sport website that you checked above during a MONTH?**
 - _____ Less than 15 minutes _____ 15 – 30 minutes
 - _____ 30 – 45 minutes _____ 45 – 60 minutes
 - _____ 60 – 75 minutes _____ 75 – 90 minutes
 - _____ More than 90 minutes

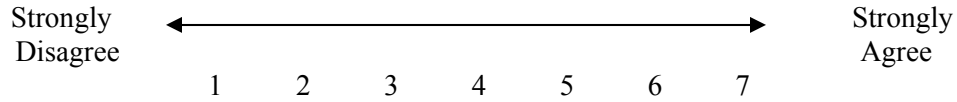
(Hedonic and Utilitarian Dimensions)

To me, my favorite sport website that I chose above is,

- | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|----------------|
| • Effective | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Ineffective |
| • Helpful | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unhelpful |
| • Functional | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Not functional |
| • Necessary | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unnecessary |
| • Practical | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Impractical |
| • Not fun | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Fun |
| • Dull | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Exciting |
| • Not delightful | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Delightful |
| • Not thrilling | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Thrilling |
| • Enjoyable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Un-enjoyable |

Instructions:

The questions below are related to **your perception of the FAVORITE SPORT WEBSITE that YOU CHOSE ABOVE**. Please choose (circle) the response (a number from 1 to 7) that best reflects your level of agreement with the following statements. There are no right or wrong answers. Your honesty will be deeply appreciated.



- | | Strongly Disagree | | | | | | | Strongly Agree |
|---|-------------------|---|---|---|---|---|---|----------------|
| <i>(Perceived Ease of Use)</i> | | | | | | | | |
| • My favorite sport website is easy to use. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • Learning to operate my favorite sport website is easy. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • My interaction with the website is clear and understandable. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • It is easy to interact with my favorite sport website. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <i>(Perceived Usefulness)</i> | | | | | | | | |
| • The website is useful for searching for sport-related information. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • The website improves my knowledge about sport. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • The website enables my effectiveness in sport information searching. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • My favorite sport website increases my productivity in searching for sport information. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <i>(Perceived Enjoyment)</i> | | | | | | | | |
| • Using my favorite sport website gives enjoyment to me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • Using my favorite sport website entertains me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • It is fun to use my favorite sport website. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • It is interesting to use my favorite sport website. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <i>(Perceived Trustworthiness)</i> | | | | | | | | |
| • I believe in the information that the sport website provides me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • My favorite sport website would be honest and truthful. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • I would be able to trust my favorite sport website completely. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • My favorite sport website will be sincere in its promises. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

(Intention to Use a Sport-related Website)

- I will use my favorite sport website on a regular basis in the future. 1 2 3 4 5 6 7
- I will frequently use my favorite sport website in the future. 1 2 3 4 5 6 7
- Assuming I have access to the Internet,
I intend to use my favorite sport website. 1 2 3 4 5 6 7
- Given that I have access to the Internet,
I predict that I would use my favorite sport website. 1 2 3 4 5 6 7

Next questions are about **YOUR ATTACHMENT to YOUR FAVORITE SPORT TEAM, PLAERS, OR COACHES.** Please choose (**circle**) the response (a number from 1 to 7) that best reflects your level of agreement with the following statements.

- | | Strongly
Disagree | | | | | | | Strongly
Agree |
|--|----------------------|---|---|---|---|---|---|-------------------|
| <i>(Psychological Commitment to a Team)</i> | | | | | | | | |
| • Being a fan of my favorite sport team is important to me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • I am a committed fan of my favorite sport team. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • It would be unlikely for me to change my allegiance
from my favorite sport team to another. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| • It would be difficult to change my belief about
my favorite sport teams. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

THANKS FOR YOUR PARTICIPATION!!!