

Gender-Specific Websites: How Do Female Visitors Respond?

Eugenia Huang

National Chengchi University: 64, Sec. 2, Zhinan Rd., Taipei 116, Taiwan, R.O.C. Phone: +886-2-29387348

eugenia@nccu.edu.tw

Cheng-Wei, Huang

National Chengchi University: 64, Sec. 2, Zhinan Rd., Taipei 116, Taiwan, R.O.C. Phone: +886-2-27321531

jimmy@mis.nccu.edu.tw

ABSTRACT

The cyberspace has shown a growing number of websites that are meant for female visitors. This paper studies the acceptance of this gender-specific service appearance, based on an extended Technology Acceptance Model (TAM). An online questionnaire survey of female respondents who have visited women-centric sites in Taiwan was conducted. It is concluded that context, content, community, and orderliness are the four key website characteristics that affect users' perceptions. The originality of themes and outreach of service, however, present no significant benefit to form positive perceptions. Further, TAM and the extended TAM are subject to modification in the women-centric context. The perceived usefulness is no longer a contributory aspect for the intention to visit, and the perceived ease of use has become less important as compared to perceived usefulness and perceived playfulness.

INTRODUCTION

The demographic distribution on the Internet has changed dramatically in recent years, especially its gender composition. There are increasingly more countries in which female Internet users have exceeded 40%. Previous studies confirmed the effect of gender difference on the Internet usage, pertaining to the feeling and the efficacy of communicating on the Internet. In particular, women are easier to experience anxiety, nervousness, and helplessness (Jackson et al., 2001; Marcella,

2002; Sheehan, 1999). Therefore, how to extend a warm welcome to women on the Internet is of great interest to marketers and researchers (Wylie, 1995). These considerations trigger the burgeoning of the websites aiming specifically at females. Many of these sites have been advertising aggressively on newspapers, magazines, and television. And the efforts of women-centric sites have indeed drawn a certain degree of attention. However, they are yet to make some breakthroughs in order to enter the mainstream. The Technology Acceptance Model (TAM) was first proposed by Davis (1986) to explain end-users' computer usage behavior. With the proliferation of Internet usage, some researches started to extend the model and test its applicability to the World Wide Web context (Johnson & Hignite, 2000; Chen et al., 2002; Hsu & Lu, 2004; Shih 2004; Chung & Tan. 2004; Lin & Lu, 2000; Moon & Kim, 2001). This paper focuses on one type of websites, i.e. women-centric websites. Based on the extended TAM by Moon & Kim (2001), it studies the female Internet visitors' perceptions of women-centric sites, and to discover how the perceptions relate to the acceptance of women-centric sites.

RESEARCH MODEL AND HYPOTHESES

Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) is a model that was proven successful in predicting and explaining behaviors across a wide spectrum of domains. Base on this model, human actions are explained by two causal paths: beliefs-attitude-intention-behavior and normative beliefs-subjective norm-intention-behavior. Davis (1986, 1989) adopted one of the paths in TRA, the belief-attitude-intention-behavior path, to develop the Technology Acceptance Model (TAM). According to TAM, end-users' perceived usefulness and perceived ease of use determine the attitude toward using a system, and the attitude in turn determine the intention and actual use; also, perceived ease of use has a causal effect on perceived usefulness (Davis, 1989). The context of the technology being investigated is brought in by external variables, or as called by Davis, design features. Design features have direct effects on perceived usefulness and perceived ease of use, and indirect effects on attitude and intention. Furthermore, a new relationship between perceived usefulness and intention is asserted in TAM. Consequently, behavioral intention is not solely determined by attitude; rather, it is determined jointly by the attitude toward the behavior and the perceived usefulness.

Simon (2001) pointed out that females tend to use a comprehensive information processing strategy when surfing, therefore can encounter anxiety due to space or bandwidth constraints. Websites design should avoid multiple levels of sub-pages to drill through. Garbarino and Strahilevitz (2004) concluded a gender difference in online shopping behavior. It was discovered

that compared with their male counterparts, female online shoppers perceive more risks shopping online, and rely more on word-of-mouth. In the area of computer mediated communication, Marcella & Binfield (1996) found that males control, govern, and develop the language used in the science and technology, and this impacts females’ ability both to communicate effectively about and to deal authoritatively with technical matter. Therefore females are likely to shun away from Internet when they encounter technical problems. Wylie (1995) even pointed out that “what women often haven’t found on the Internet is a warm welcome”.

TAM was modified and extended to incorporate a new and broad category of information systems, i.e. the Internet and World Wide Web (Johnson & Hignite, 2000; Chen et al., 2002; Hus & Lu, 2004; Shih 2004; Chung & Tan. 2004; Lin & Lu, 2000; Moon & Kim, 2001). The goals were to understand what factors lead to the acceptance of WWW. Software and hardware designs can thus be adjusted accordingly to enhance WWW usage (Chen et al., 2002; Johnson & Hignite, 2000; Lin & Lu, 2000; Moon & Kim, 2001). These studies have again successfully confirmed TAM’s applicability even to this new sort of information systems. Since women-centric websites are a subset of the virtual world of the WWW, this study will be base on the same model with the external variables incorporating the female context. This is shown in Figure 1, which adopts TAM as the core.

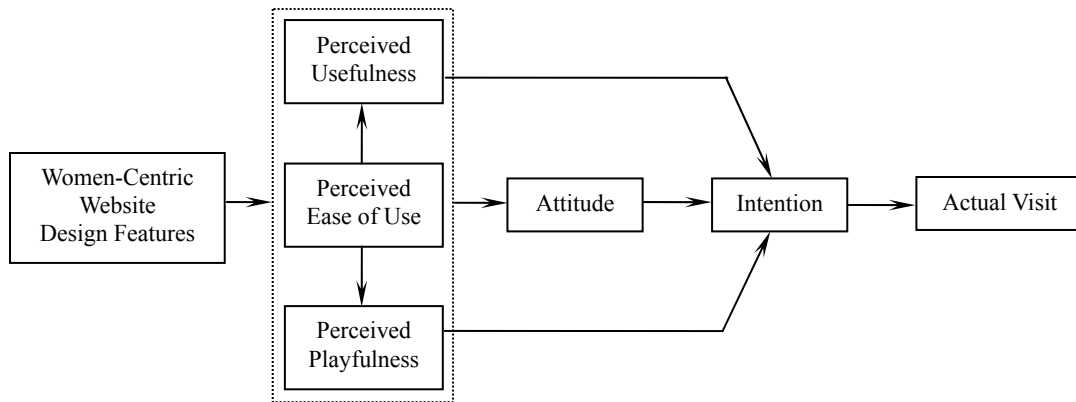


Figure 1: Research model.

In order to incorporate the WWW context, the “beliefs” stage is augmented by perceived playfulness construct, as suggested by Moon & Kim’s (2001) study of WWW acceptance using TAM. The design features of women-centric sites are the external variables that directly affect female user’s perceptions of this category of websites. This research hypothesizes that these design features affect female visitors’ perceptions in three aspects: the perceived usefulness, the

perceived ease of use, and the perceived playfulness of the site. The specific elements of the model and related hypotheses are further detailed below.

User-Interface and Web Design

Website designers have paid much attention to human-computer interactions and user interface design, and the goal was to help users to navigate the site more effortlessly (Card et al., 1983; Lin, 2000; Marcus, 1995). Successive researches that centered on the identification of the attributes that affect online users' perceptions of a website pointed to the pivotal implication of the strategic aspect of website design. Rayport & Jaworski (2001) proposed a 7Cs framework of an effective customer interface design. The seven C's signify context, content, community, customization, communication, connection and commerce. Page & Lepkowska-White (2002) proposed a framework based on the awareness and image dimensions of brand equity, and emphasized the importance of "Web-equity". These and other relevant researches gradually shaped website design as an important factor that contributes to forming customer perception on a dot-com or the image of a company behind its virtual presence.

Many studies subsequent to Davis (1986, 1989) confirmed TAM's consistent applicability for various computer systems under organizational settings (Adams et al., 1992; Chin & Todd, 1992; Davis et al., 1989). However, they pointed out that there is no absolute measure of ease of use or usefulness, and concluded that user perceptions of these constructs may vary with time and experience for any given application. In order to increase external validity of TAM, it is necessary to further explore the nature and specific influences of technological and usage-context factors that may alter the user acceptance. Consequently, we hypothesize that:

- H1. The design features of women-centric websites are positively correlated with female users' perceived usefulness.
- H2. The design features of women-centric websites are positively correlated with female users' perceived ease of use.
- H3. The design features of women-centric websites are positively correlated with female users' perceived playfulness.

The Extend TAM

This research adopted a conceptual model proposed by Moon & Kim (2001), because with the

extension of perceived playfulness, their extended model has a better explanation than the original one proposed by Davis. However, in Moon & Kim's study, all possible Internet applications are generalized by WWW. The study of women-centric websites based on Moon & Kim's extended TAM offer an opportunity to further investigate if women-centric websites fall into the general notion of Internet applications. In other words, the generalizability of Moon & Kim's extended TAM can be refined. Hypotheses 4 through 8 describe the relationships among female users' perceptions, and the relationships between female users' perceptions and attitude.

H4. The perceived ease of use is positively correlated with the perceived usefulness.

H5. The perceived ease of use is positively correlated with the perceived playfulness.

H6. The perceived usefulness is positively correlated with the attitude.

H7. The perceived ease of use is positively correlated with the attitude.

H8. The perceived playfulness is positively correlated with the attitude

The intention to visit women-centric sites is a result of positive perceptions of usefulness and playfulness, and a positive attitude toward women-centric sites. The intention to visit then leads to the actual visit. Hypotheses 9 through 11 describe these relationships:

H9. The perceived usefulness is positively correlated with the intention to visit.

H10. The perceived playfulness is positively correlated with the intention to visit.

H11. The attitude is positively correlated with the intention to visit.

H12. The intention is positively correlated with the actual visit.

DATA COLLECTION AND ANALYSIS

When TAM was studied in an organizational setting, a close community of respondents is expected, which facilitated sampled survey quite conveniently since sampling frame was easily attained. In such a close community of study, even laboratory experiment method had been reported. Whereas the usage of Internet and WWW reaches far and wide; users can access Internet from school, office, home, airport, Internet café, and virtually any public areas. The diversiform of this category of applications poses different challenge from before. Given its unique access mode through Internet, the study of WWW reasonably mandates an online survey. Though a completely random sample can not be guaranteed with online survey, if a representative sample is obtained, the benefit of increased external validity should outweigh the shortcoming.

A data set for 357 female respondents in Taiwan was gathered. Further screening eliminated 28 samples in which there were conflicts in answers. The majority of respondents tend to be in the 20's, which is quite agreeable with the Internet visitors' profile in Taiwan.

The internal consistency reliabilities were assessed by computing Cronbach's α . The values are 0.8528 (perceived usefulness), 0.8525 (perceived ease of use), 0.9257 (perceived playfulness), 0.8435 (attitude toward avisting) and 0.8251 (intention to visit), all above 0.7, indicating a high measure of internal consistency and an overall good reliability (Nunnaly, 1978). Construct validity determines the extent to which a scale measures a variable of interest and can be assessed by factor analysis. The questions measuring the design features of women-centric websites were factor analyzed using principal component method. The Bartlett's test of Sphericity ($p=0.000$) indicates that the correlation matrix has significant correlations among at least some of the variables, and the Kaiser-Meyer-Olkin measure of sampling adequacy (0.910) showed marvelous sampling adequacy. Eigenvalues and Scree test (Hair et al., 1998) were used to determine the number of factors to be extracted. A six-factor structure was suggested; the extracted factors account for 68.3% of the total variance. These six factors are labeled: context, content, community, originality, outreach and orderliness, forming 3C3O constructs. The factor loadings in the assessment were all above 0.40, indicating that all the items loaded significantly on its own factor. This supports the discriminate validity of the measurement.

Models Derived by Path Analysis

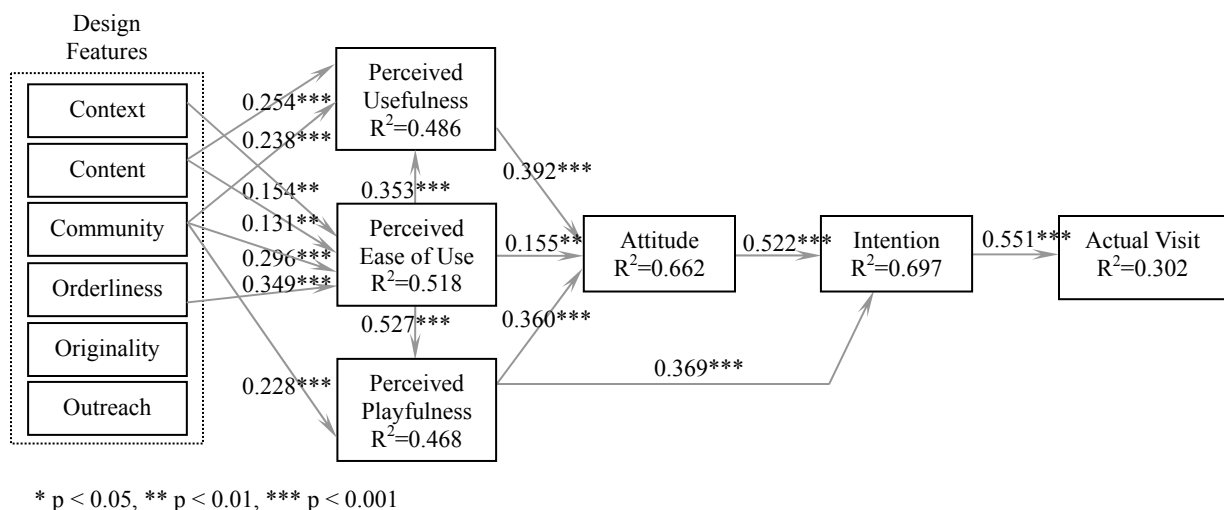


Figure 2: Path analysis result

The data were analyzed by path analysis, a multivariate analytical methodology for empirically examining set of relationships in the form of linear causal models (Li, 1975). Figure 2 shows the result. The non-significant paths are removed, and the significant paths are labeled with its corresponding coefficients. According to Neter et al. (1996), “a maximum VIF value in excess of 10 often indicates that multicollinearity may be unduly influencing the least square estimates”. Since the VIF (variance inflation factor) values are all very close to 1, the concern of multicollinearity among the regressors (independent variables) can be effectively ruled out. The result shows that the most important design features of women-centric websites are content and community, for they affect more than one type of perceptions. The context and orderliness of the website affect only the perceived ease of use. The originality and outreach, however, have no significant effects on any perceptions. In short, the most important design features of women-centric websites are content and community, followed by context and orderliness; originality and outreach do not prove to be of significance.

CONCLUSION

This paper examines the applicability of the extended TAM model proposed by Moon & Kim (2001) to the setting of women-centric websites. The website design features were factor analyzed and produced 3C3O constructs. Findings in this study partially support the hypotheses that female visitors’ perceptions on women-centric websites are affected by website design features, and that positive perceptions leads to female visitors’ acceptance of the site. Hypotheses 1, 2, 3 are partially accepted and hypothesis 9 is rejected; other hypotheses are accepted.

Hypothesis 9 asserts a positive correlation between perceived usefulness and the intention to visit the site. Its rejection implies that female visitors do not intend to visit women-centric websites because they are “useful”. Instead, the intention is out of the perceptions of the website being playful. Also, the perceived ease of use does not seem to be very important for female visitors, since the coefficient for the link between perceived ease of use and the attitude is only 0.155.

The partially accepted hypotheses are the ones between the 3C3C design features of women-centric sites and the perceptions. The richness of content and the atmosphere of community are the two important factors that affect women’ perceived usefulness of the site. These two factors and the arrangement of context, the orderliness of information are the four factors that affect the perceived ease of use. The atmosphere of community is proved to be a very important factor, since the path coefficients are relatively higher and the paths leading to all

perceptions are significant. The originality of themes and the outreach of service, however, have no effect on women's perceptions on the site. Perceived playfulness is the most important perception for two reasons, because out of three perceptions, only the perceived playfulness directly affects the intention to visit, and the corresponding coefficients leading to the attitude is also quite high.

Finally, the perceptions of usefulness, ease of use, and playfulness affect the attitude toward visiting female sites. The attitude and perception of playfulness together form the intention to visit, and then leads to actual visit.

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