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Investigating the Antecedents and Consequences of Attitude toward Web Site: A Web Content Attribute Perspective

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Abstract

In recent years, most studies in the Attitude toward Web Site (A_{web}) literature have been empirically scoped in shopping or commerce contexts and lack of systematic perspectives in investigations, therefore offered limited insights on guiding the knowledge for non-shopping web contexts, such as the online content industry. The purpose of this study is to choose the content attribute perspective to construct and empirically test a research model incorporating the antecedent and consequence variables of the A_{web} construct for the online content industry. After an extensive review on related literature, we propose 3 content attributes - informativeness, entertainment, and organization as the antecedent variables driving the A_{web} construct, which in turn explains the consequence variable set formed by intention to revisit, loyalty toward web site, and intention to future online commerce. For further testing the research model, a controlled survey methodology under laboratory environment is used. After collecting and analyzing 62 observations of psychological experience questionnaire for freely-browsed e-News sites on graduate student samples, all the research hypotheses are tested by using regression analysis and significantly supported. Encouragingly, this study successfully justifies the rationale that manipulating web site content strategies could lead to the formation of web users' attitudes and thus in turn explain and predict their subsequent online behavior.

Keywords: attitude toward web site (A_{web}), content strategy, e-News site, online content industry

1. Introduction

1.1 Research Background

With the proliferation of WWW over the internet, both managerial academics and practices are eager to investigate why and how people like to visit certain sites, for keeping visitors means huge potential commerce benefits [26]. Responding to these managerial questions, there has been an emerging area concerning such issues in internet research. That is a concept termed as "Attitude toward web site" (A_{web}), which is an academic construct that reflects a web surfer's predisposition of responding favorably or unfavorably to web content [5]. Studying the antecedent and consequence variables for the A_{web} construct can provide behavioral rationales for explaining

web surfers' web site preferences and related online behavior [2].

However, most studies in the literature have been empirically scoped in shopping or commerce contexts and therefore offered limited insights on guiding the knowledge for non-shopping web contexts, such as the online content industry. As a matter of fact, under shopping contexts, people exhibit more involvement and mental efforts for the information processing of consumer choice decision [4][23] and thus behave differently from non-shopping contexts like freely-browsed content sites. Therefore, a formal empirical study on the A_{web} construct for the online content industry is needed. Such a research will not only bridge the gap in the literature but also provide insights for the formation of web site strategies to help online content companies attract more visitors and enhance their web site performances. Aiming on attempting to step forward for the literature of internet research, this study is positioned as constructing and testing a research model incorporating the antecedent and consequence variables of the A_{web} construct for the online content industry.

1.2 Research Purpose and Questions

Previous studies concerning the A_{web} construct are fragmented and short of a specific perspective to systematically investigate the antecedents and consequences. Aiming on acknowledging such a deficiency in the literature, with the recognition that content strategy is one of the core competencies of content sites [11] [10], the purpose of this study is to choose the content attribute perspective to develop the research model for the A_{web} construct under the online content sites contexts.

Specifically, the research questions of this research are set as: (1) For online content web sites, what would be the appropriate set of antecedents determining the A_{web} construct from only the web site content attribute perspective? (2) And in turn, what consequences with business implications might be caused by the A_{web} construct?

1.3 Organization of This Study

The flow of this study is organized as follows. First, we briefly review related literature of the internet behavioral research, A_{web} research, respectively and then

give an overall commentary on the deficiencies of the body of literature. Second, a systematic research model with hypotheses is developed through the perspective of content attribute. Third, we propose a research design to empirically test our research model. Finally, we discuss the implications based on the findings of this study for both academics and practices and conclude with general recommendations for the online content industry.

2. Literature Review

2.1 Internet Behavioral Research

World Wide Web (WWW) has been considered as the emerging medium for marketing communication [3]. In recent years, innovation diffusion and consumer internet adoption have attracted many academic attentions [12] [19][18][28]. Also, with certain product categories, consumer buying has been modeled [20]. Another popular internet research topic is the web site effectiveness, where researchers have been focused on web site design features and content [10][27], profiling effective web sites [17], and the features that make a "good" web site [22] [9] [14].

2.2 Attitude toward Web Site

Attitudinal research has already been fruitful in the literature of behavioral science and marketing research [21]. Attitude is an important factor that determines human behavioral intentions and thus in turn drives

further actual behavior [1].

After the recognition that viewed WWW as a powerful medium for marketing communication, the attitudinal research concerning the web site inherit much knowledge from the literature of attitude toward the advertisement to study its causes and outcomes for electronic commerce strategies [5]. Understanding why and how people develop positive attitude toward the web site would be a great help to enhance the commerce performance for web sites. After comprehensively reviewing the empirical studies of the A_{web} literature, we can tell that there have been many factors associated with the A_{web} construct. It shows that the knowledge on A_{web} has started to accumulate and is waiting for further integration. For the purpose of sketching the whole picture of the A_{web} literature, we select antecedents, outcomes, empirical context, research methodology, and testing method as important attributes to profile each empirical reference. The descriptive findings are represented as Table 1 below.

2.3 Deficiency of the literature

After reviewing related literature, we can learn that the A_{web} construct has been drawing many attentions from the researchers. Many variables have been found associated with it, from both antecedent and consequence sides. Through the empirical validations of the linkage between A_{web} construct and web users' behavioral variables such as intention to revisit or shop, the A_{web} literature justifies its importance and business implications for the electronic

Table 1: Empirical literature concerning the A_{web} construct

Reference	Antecedents of A_{web}	Outcome of A_{web}	Web context	Methodology	Testing method
[29]	Convenience(+) Navigation(+) Economic incentive(+) Entertainment(+) Informativeness(+)		Book shopping	survey	correlation
[5]	Informativeness(+) Entertainment(+) Organization(+)		General	survey	Regression
[23]	Emotional rating(+) Rational rating(+)		Commercial	Experiment	Regression
[15]	Complexity(-) Novelty(+)	Desire to shop(+)	Shopping	survey	SEM - LISREL
[25]	Background complexity(-)	Advertisement attitude(+) Brand attitude(+) Purchase intention(+)	shopping	Experiment	ANOVA & Correlation
[30]	Convenience(+) Navigation(+) Economic incentive(+) Entertainment(+) Informativeness(+)		Book shopping	survey	SEM - EQS
[2]	Brand attitude(+) Involvement(+) Internet knowledge(+) Internet experience(-)	Time spent(+)	shopping	survey	SEM - LISREL
[6]	Usefulness(+) Ease of use(+) Enjoyment(+)		shopping	survey	SEM - LISREL
[7]	Interactivity(+) Vividness(+)		shopping	experiment	ANOVA
[16]		Intention to use information(+) Information use (+)	Commercial - Travel lodge	survey	SEM - LISREL
[26]	Brand loyalty(+) Functionality(+) Layout(+)	Intention to revisit(+)	Commercial - airline company	survey	Correlation & regression

commerce industry. Although we agree the A_{web} knowledge has begun to accumulate, we can observe that a systematic investigation of the A_{web} construct with both antecedent and consequence sides for the online content industry is still absent. Most studies are lacking specific perspectives and are thus fragmented, in addition, they are also empirically scoped under shopping or commerce web contexts, therefore providing limited insights for the A_{web} knowledge of non-shopping contexts.

Motivated by such a deficiency in the literature and acknowledging the practical importance to introduce the A_{web} research for the online content industry in order to understand the causes and outcomes of web users' psychological attitudes, this study is planned to adopt specific perspective suitable for the online content industry to systematically investigate the research model incorporating the antecedent and consequence variables of the A_{web} construct.

3. Research Model Development and Research Design

3.1 Perspective selection

Previous studies concerning the A_{web} construct are fragmented and short of a specific perspective to systematically investigate the antecedents and consequences, and are not yet reaching into the non-shopping context domain. As a matter of fact, this study believes that choosing content attribute as the perspective to study the A_{web} construct would be a suitable cutting point for the online content industry.

Up to date, the profit source of the online content industry is still mainly stemmed from the traffic visited by web users. Most content web sites like e-News sites though pushing to their limits to explore profitable revenue models, however, web users' intentions to pay for online content remain poorly low [11]. Therefore manipulating content strategies to let web site favorable for web users and keep them revisiting to generate advertising revenue is the most important issue for the online content site managers [10].

Therefore, though there have been many antecedent factors shown in the literature, especially those individual characteristics like involvement, knowledge, and experiences, we believe that investigating content-related variables would mostly contribute to the formation of web site strategies. Because individual characteristics are usually not applicable for the web site holders, only studying content-related variables can be directly linking to the web design method and thus providing a more favorable site to create massive web traffic for generating huge advertising revenues.

The purpose of this study is to choose the content attribute perspective to develop the research model for the A_{web} construct under the online content sites contexts. After comprehensively examining the reference base, we believe informativeness, entertainment, and organization factors defined and measured by Chen and Wells could be a great framework to capture major conceptual nature of those content-related variables shown in the literature [5]. We firstly propose the research model depicted as Figure 1 below and then provide hypothesis derivations successively.

3.2 Hypothesis derivation

The set of hypotheses of this study can be divided into two different parts, the confirmatory paths and exploratory paths. Confirmatory ones means they are derived with stronger theoretical basis and empirical supports, on the other hand, exploratory ones are those relationships that are incorporated into the model for the purpose of exploring the possibilities of empirical linkage among variables. We propose them as follows.

3.2.1 Confirmatory Paths

In their important research findings, Chen and Wells have factor-analyzed 76 items pooled from an extensive review of attitudinal antecedent literature related to the WWW environment. They finally have extracted three meaningful dimensions formed by 16 items, and termed as the informativeness, entertainment, and organization

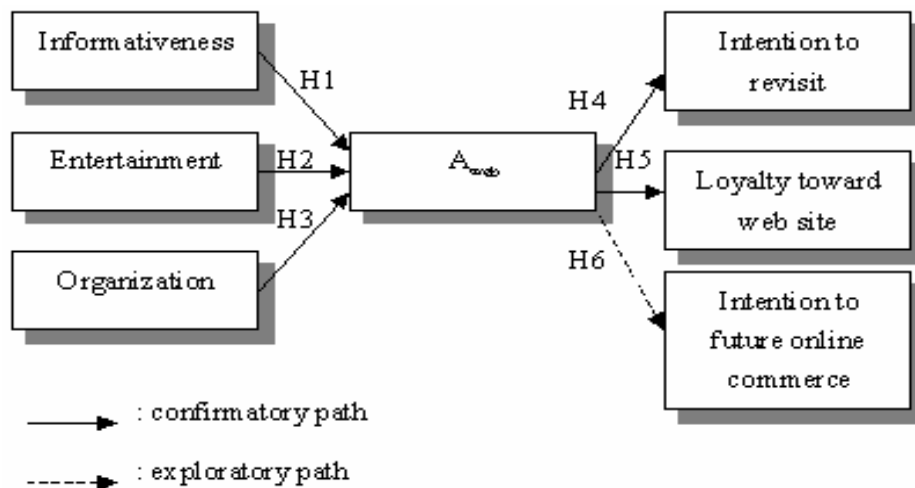


Figure 1 : Research model

respectively. These three dimensions reflect the content attributes perceived favorably by web users or not. Therefore, they can be described as the scores rated by web users in informational, recreational, and interfacial ways to judge the overall evaluations of a web site. Informativeness, entertainment, and organization have also been put into the regression model as the independent variables to explain and predict the A_{web} construct. In their empirical results, these three factors significantly account for 63% variation of the A_{web} Construct [5].

This is the most important literature that has formally verified these three factors in explaining the A_{web} construct. As a matter of fact, there have also been related literature providing more theoretical arguments and empirical supports. Childers et al. [6] have adapted the TAM theory [8] to propose the usefulness, ease of use, and enjoyment of web site content as the three antecedents for A_{web} and found to be positively significant. Similarly, Wu has also empirically validated that browsing convenience, navigational pleasantness, content entertainment, and content informativeness are significant factors associated with A_{web} positively [29][30].

We can observe that these factors are all close or similar to the three antecedent variables in this study, however, their empirical contexts are mostly scoped under shopping environment (please referencing Table 1). In responding to our research questions, for the online content industry, we expect that web users are not necessarily behaving the same as in the shopping web sites. Thus we are going to re-test the antecedent paths composed by informativeness, entertainment, and organization respectively to explain the A_{web} construct. The hypothesis 1-3 is proposed as below.

- *H1: The perceived informativeness of web content will be positively associated with web users' A_{web} .*
- *H2: The perceived entertainment of web content will be positively associated with web users' A_{web} .*
- *H3: The perceived organization of web content will be positively associated with web users' A_{web} .*

Intention to revisit has been empirically found to be positively influenced by the A_{web} construct. The more positive web users' A_{web} are, the more intentions they will exhibit to revisit that web site [26][16]. But this relationship has not been validated in non-shopping site contexts yet. Considering this variable is an important index for web site effectiveness and the need to re-test the consequence relationship for the online content industry, in addition, we are also attempting to even extend the explanatory ability of A_{web} to the loyalty level, thus we propose the hypothesis 4-5 as below.

- *H4: The web users' A_{web} will be positively associated with web users' intention to revisit.*
- *H5: The web users' A_{web} will be positively associated with web users' loyalty toward web site.*

3.2.2 Exploratory paths

In the exploratory part of the research model, though we are lack of theoretical support and empirical supports

for this path, we are going to verify this linkage between variables in order to explore more relationships for providing empirical basis of future substantive relationship development.

From the interviews of the CEOs of e-news site in Taiwan, we can observe that, being one sector of the online content industries, they are now more impatient with poor revenue statistics of web site. In their future strategic planning for web site business, they are going to explore more profitable business models including experimenting online transactional commerce which is still absent in their web site business scopes.

However, they are actually very concerned with the acceptability of their online users (<http://ceiba.cc.ntu.edu.tw/online/wwwboard/homework/index.html>). For the purpose of investigating that if it will also somewhat increase web users' intentions for future online commerce after they develop positive attitude toward web site, this study incorporates this exploratory path. We hope to answer this important managerial question for online content industries. Hypothesis 6 is proposed as below.

- *H6: The web users' A_{web} will be positively associated with web users' intention to future online commerce.*

3.3 Research Design

3.3.1 Measurement

All the research variables shown in the research model can be operationalized through referencing the well-developed instruments in the literature. We tabulate the variable name, number of items, scale type, and literature reference for each research variable as Table 2 below.

Table 2: Measurement of this study

Variable name	Number of items	Scale type	Source
Attitude toward web site	6	Metric, 5-point Likert Scale	[5]
Informativeness	6	Metric, 5-point Likert Scale	[5]
Entertainment	6	Metric, 5-point Likert Scale	[5]
Organization	4	Metric, 5-point Likert Scale	[5]
Intention to return	2	Metric, 5-point Likert Scale	[7]
Loyalty toward web site	2	Metric, 5-point Likert Scale	[26]
Intent to future commerce	2	Metric, 5-point Likert Scale	This study

3.3.2 Data Collection and Analytical Methods

The methodology of this study is positioned as a controlled survey, which is a questionnaire survey on subjects under specific task environment. We recruit 21 graduate student samples in university campus and invite them to participate this study in campus internet environment in order to rule out the interference effect of network quality.

The web context for the online content industry is set as the e-news sites, for their representativeness in the content provider industry [11]. The news sites held by the top three publishers in the newspaper industry in Taiwan are sampled as the stimulus to anchor the perceptions of research subjects (tabulated as Table 3). Because each site has its features and strategies somewhat differently, we

expect these sites could create sufficient variations in web users' perceptions and therefore better than a single-site empirical design.

Table 3: e-News site pool of this research design

Newspaper publisher	e-News site
The China Times	http://news.chinatimes.com/
The United Daily News	http://www.udnnews.com/
The Liberty Times	http://www.libertytimes.com.tw

The researchers of this study will adopt a systematic rotating technique to produce the site visiting list for each subject in order to avoid the systematic perception bias caused by fixed visiting orders of web users. The procedure is to let subjects follow their given lists of visiting news sites and freely browse each site for a certain period of time. After finishing browsing a site, he/she will be asked to complete the questionnaire for that site. Therefore, a total sample size of twenty one graduate students is planning to create 3X21=63 observations for further data analysis.

Besides basic descriptive analysis of the sample data, for all the variables collected by the instruments are metric scales, this study uses the factor analysis to validate the measurement models and then multiple regression method to test the substantive relationships of the research model [13]. After analyzing the empirical data set by SPSS 8.0 for Windows, all the confirmatory and exploratory paths are verified and thus provide the empirical testing results for the hypotheses within the research model.

4. Data analysis

4.1 Descriptive Analysis of Samples

After examining the data set, a data set containing 62 effective observations of questionnaire is obtained. We tabulate gender, age, internet usage in Table 4-6 for the sample subjects to sketch the sample characteristics.

Table 4: Gender profile of samples

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	8	12.9	12.9	12.9
Male	54	87.1	87.1	100.0
Total	62	100.0	100.0	

Table 5: Age profile of samples

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 23.00	15	24.2	24.2	24.2
24.00	12	19.4	19.4	43.5
25.00	20	32.3	32.3	75.8
26.00	3	4.8	4.8	80.6
27.00	6	9.7	9.7	90.3
29.00	3	4.8	4.8	95.2
39.00	3	4.8	4.8	100.0
Total	62	100.0	100.0	

From these descriptive tables above, we can observe the sample features to assess the sample quality of this study. They are mainly male, young, and are internet expert users with at least 3 years of internet usage experiences. Therefore collecting convenient sample for the purpose of adopting the controlled survey methodology turns out to receive a too homogenous

sample pool and thus severely threatens the external

Table 6: Internet usage profile of samples (in years)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3.00	3	4.8	4.8	4.8
5.00	8	14.5	14.5	19.4
6.00	27	43.5	43.5	62.9
7.00	17	27.4	27.4	90.3
8.00	3	4.8	4.8	95.2
10.00	3	4.8	4.8	100.0
Total	62	100.0	100.0	

validity of this study.

4.2 Instrument Validation

In this study, totally 28 5-point scale variables for measuring 7 factors shown in the research model are collected. Although these measurement models are mostly introduced from well-developed instruments in the literature, in order to ensure the construct validity under the empirical context of this study, principal component factor analysis is used to validate the measurement models. All the factor solutions with reliability Alpha are provided as Table7 below. We can observe that each measurement model produces one-factor solution and acquires the Alpha value in the interval of 0.77-0.95. It shows the measurement model quality of this empirical study is extremely desirable and free from the concerns of construct validity and reliability.

4.3 Hypothesis testing

4.3.1 The Antecedent Model of A_{web}

In hypothesis 1-3, we propose the antecedent model for the A_{web} construct. These paths are verified simultaneously with a multiple regression model incorporating 3 independent variables. The A_{web} construct is regressed on informativeness, entertainment, and organization of the web content. As depicted in Figure 2 below, it shows that these paths are all corroborated in this study. They pass the F-test and t-test of regression analysis at 0.000 significance level and explain nearly 80% variance of the A_{web} construct ($R^2=0.797$). Therefore, hypothesis 1-3 are supported in this study.

4.3.2 The Consequence Model of A_{web}

In hypothesis 4-6, we propose the consequence model for the A_{web} construct. These paths are verified separately with 3 simple regression model incorporating only the A_{web} construct to explain the consequence variables. The A_{web} construct is used to regressing intention to revisit, loyalty toward web site, and intention to future online commerce separately. The results show that these paths are all corroborated in this study. They pass the F-test and t-test of regression analysis at 0.000 significance level. And the A_{web} construct can explain 72.5%, 38.6%, 52.6% variation for intention to revisit, loyalty toward web site, and intention to future online commerce respectively. Therefore, hypothesis 4-6 are supported in this study as well.

Table7: Measurement model validations with reliability estimates

Attitude toward web site, Alpha = .9077			Informativeness, Alpha = .9929		
Item	Factor Loading		Item	Factor Loading	
Aweb1	0.74		Inf1	0.77	
Aweb2	0.89		Inf2	0.77	
Aweb3	0.82		Inf3	0.77	
Aweb4	0.86		Inf4	0.87	
Aweb5	0.79		Inf5	0.74	
Aweb6	0.88		Inf6	0.81	
Variance extracted	69.41%		Variance extracted	65.60%	
Entertainment, Alpha = .9325			Organization, Alpha = .9659		
Item	Factor Loading		Item	Factor Loading	
Ent1	0.85		Org1	0.81	
Ent2	0.90		Org2	0.86	
Ent3	0.90		Org3	0.89	
Ent4	0.90		Org4	0.80	
Ent5	0.87		Variance extracted	71.41%	
Ent6	0.86				
Variance extracted	76.91%				
Intend to return, Alpha = .9421			Loyalty toward web site, Alpha = .7730		
Item	Factor Loading		Item	Factor Loading	
InfRet1	0.97		Loy1	0.90	
InfRet2	0.97		Loy2	0.90	
Variance extracted	94.51%		Variance extracted	81.04%	
Intend to future commerce, Alpha = .8307					
Item	Factor Loading				
FutureCmt1	0.98				
FutureCmt2	0.98				
Variance extracted	95.31%				

4.4 Discussions

4.4.1 For antecedent variables

From the empirical findings of this study, we can observe that in online content industry context (e-news web sites), the explanatory capability of 3 content attribute factors is even stronger than in shopping context investigated empirically in the literature. Chen and Wells have ever reached the 0.63 level of R square and concluded with the emerging opportunity of the A_{web} prediction theory [5]. In this study, we are interested in the non-shopping context and re-test the content attribute antecedent model for the e-news site industry. By using the controlled survey methodology, we amazingly achieve the 0.797 level of R square toward explaining the A_{web} construct. Therefore we find that the antecedent structure is more suitable for explaining A_{web} in digital content industry, and we also develop a more robust basis of the A_{web} prediction theory for the academic literature from the web content attribute perspective. Although there have been many variables shown in the A_{web} literature (please referencing Table 1), now it can be claimed that content-related variables, namely, informativeness, entertainment, organization are the most major explaining

system for the A_{web} construct and therefore provide the rationale for people's preference of web sites.

Besides that, we also observe that the influencing effects of 3 content attribute factors are different from those empirically explored in the literature. For e-news web sites, entertainment factor is the most important factor influencing A_{web} (Standardized beta coefficient: entertainment 0.42, > informativeness 0.40 > organization 0.30). Compared to the Chen and Wells' study [5], the influencing effect of informativeness is much decreased in strength, and the effect of organization factor is remained the weakest (in their findings, Standardized beta coefficient: informativeness 0.57 > entertainment 0.34 > organization 0.22).

The possible explanations of the findings above may be attributed to the motivational factors of web users and the information quality of online content providers. According to the annual internet surveys conducted by one of the largest portal sites in Taiwan, in recent years, seeking for recreational entertainment source of digital content has been one of the major activities performed by web users of e-news sites (<http://survey.yam.com/index.html>). Therefore from the view point of motivational reasons, being satisfied by the entertainment attributes of a web site is going to generate the most positive experiences for web users and thus develops the most favorable attitudes toward a site.

On the other hand, online content providers today are facing channel conflict dilemma among content delivery vehicles. Being driven by fearing the decline of physical material sales, they are reluctant to offer high quality information online. This leads to lower the average level of expectations of web users for acquiring knowledgeable information on news sites and thus might dilute the effect of informativeness on A_{web} .

4.4.2 For consequence variables

From the testing results of the consequence model of the A_{web} construct we can learn that A_{web} can both significantly affect intention to revisit and loyalty toward web site, however, the A_{web} -Loyalty relationship is much weaker. A_{web} accounts for 72%, 38% variation for intention to revisit and loyalty toward web site respectively. This finding may be not so good for web site managers, for putting huge efforts to develop and

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.897 ^a	.797	.786	3.366	
a. Predictors: (Constant), ORG, INF, ENT					
Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	-.603	.288		-1.747
	INF	.481	.069	.400	5.391
	ENT	.404	.071	.426	5.712
	ORG	.312	.066	.303	4.751
a. Dependent Variable: AWEB					

Figure 2: Regression analysis for testing the antecedent model of A_{web}

implement web content strategies may just only well pay off on attracting people to come back to site in the future but not on receiving sufficient loyalty from their web users. Site managers have to face the reality that in internet business, if other sites provides stronger incentives, then their online users may just switch easily and quickly. Although A_{web} affects loyalty significantly, the site managers are still obviously risky at relying on the content strategies to develop user loyalty. Seeking for other more effective means of web site strategies to combine with or replace content strategy still challenges the site managers.

However, surprisingly, we find A_{web} does build a relationship with intention to future online commerce. A_{web} accounts for over 50% variation of it ($R^2=0.52$). We can now confirm the conjecture that striving for A_{web} will also pay off on the electronic commerce perspective. News site users tend to be willing to transact with sites responded favorably in the future. Although this relationship means little in theoretical contributions, however, it is going to greatly inspire online content providers for already offering the confidence for future strategic planning of entering electronic commerce. This study creatively and successfully relates the A_{web} construct to intention to future online commerce. Of course it's only an exploratory finding and thus needs to be validated with better research design by future studies.

5. Conclusion

The purpose of this study is to choose the content attribute perspective to develop and test the antecedent and consequence model for the A_{web} construct under the online content sites contexts. By using the controlled survey methodology with graduate student samples, all the research hypotheses are supported. The main empirical results can be summarized and depicted by mapping back to the research model as Figure 3 below.

5.1 Contributions and Implications

Selecting the content-related variables as the perspective to construct the research model for the A_{web} construct with online marketing variables provides an point of view that links the content strategies of web sites

to web users' psychological attitude and behavioral outcomes. With the derivation and empirical testing these relationships among research variables, we justify the rationale that manipulating web site strategies could lead to the formation of web users' attitudes and thus in turn explain and predict their subsequent online behavior.

It is certainly that such a research model should be taken into further empirical validation for clarifying the substantive relationships. However, this study already provides both the logical derivations of model building and feasible operationalization approach of empirical research design to verify hypothetical relationships among variables and thus contributes to the theory building and testing for the electronic commerce literature. Besides, linking the web content strategies to web site business-related outcomes via the attitudinal construct helps us to successfully cope with the most urgent managerial issues for the online content industry.

From the empirical testing of such a research model, we can tell the influencing effect of every single model path and thus develop the knowledge for the impact of web site content strategies on A_{web} and those important indices of web site effectiveness, such as intention to revisit and loyalty toward web site. It can directly help the web site managers to adjust their ways of web site design. Based on the empirical findings, for the e-News site industry, we recommend to pursue entertainment strategy first in order to directly meet most web users' expectations and satisfy their online motivations. Compared to informativeness and organizational factors, providing interesting and attracting recreational content will contribute most effectively to develop web users' favorable attitudes.

We also put important online marketing variable like future online commerce intentions into the model. Such an attempt is even beyond the web site business scope and therefore facilitating the formation of the corporate level strategies to explore the potential of entering into the transactional online commerce activities for the newspaper industry. A_{web} is found to be significantly associated with web users' intentions to future online commerce thus providing a good message for the online content providers to bravely attempt building transactional relationships with their web users.

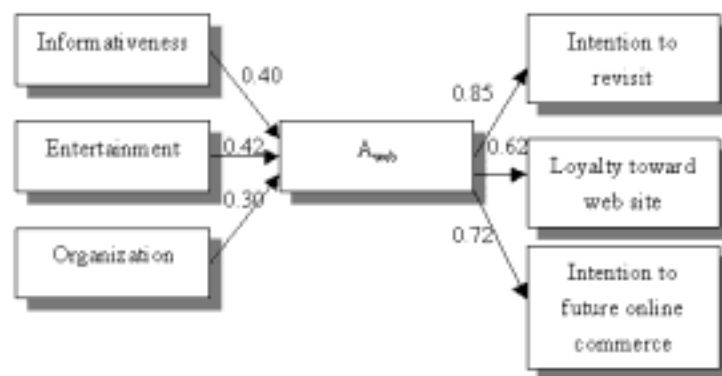


Figure 3: Research finding summary of this study (paths are labeled with standardized beta coefficients obtained by regression analysis)

5.2 Limitations and Recommendations

Although variables shown in the research model provides significant implications for both the managerial research and practices of the electronic commerce, readers ought to pay attentions to the interpretations of the findings in this study. What we claim and focus for the model building is via the web content-related perspective and thus offering limited scope for the explanation and prediction toward the A_{web} construct and subsequent dependent variables. As a matter of fact, there have been fruitful in the exploration of explanatory variables for the web site attitudinal research. Individual characteristics such as involvement, internet knowledge, and experiences have also found to be empirically associated with the A_{web} construct [2]. In addition, other web site attracting strategies such as providing economic incentives for web users also identify the utilitarian rationale for developing positive attitude toward sites [29][30].

In other words, there are still lots of potentials in this area of research. Future studies should attempt to explore more antecedent views with more business outcomes of online marketing for the A_{web} construct to enrich the theoretical systems of the web attitudinal research, and thus continuing to uncover the phenomenon of people's preference to stick with certain web sites and its possible behavioral outcomes as well. And certainly, the sample quality concern that threats most severely to the external validity of this study has to be relieved by future studies. Larger sample size and more heterogeneous sample characteristics are more desirable to effectively estimate the real pictures of internet user population.

Individual psychological constructs are very popular and playing important roles in the consumer behavior literature, however, they are still relatively unexplored in the web site effectiveness literature. This study puts lots of efforts into the preliminary attempt to investigate the phenomenon of why people respond to certain web sites favorably and explore its potential online marketing outcomes. We hope to introduce an innovative perspective and thus inspire more future studies to enrich the electronic commerce management literature.

References

- [1] Ajzen, I. and M. Fishbein, *Understanding Attitude and Predicting Social Behavior*, Prentice-Hall, USA, 1980.
- [2] Balabanis, G. and N. L. Reynolds, "Consumer Attitudes towards Multi-channel Retailers' Web Sites- The Role of Involvement, Brand attitude, Internet Knowledge and Visit Duration," *Journal of Business Strategies*, 2001, 18, 2, 105-131.
- [3] Berthon, P., L. Pitt, and R. Watson, "Marketing communications and the world wide web," *Business Horizons*, 1996, Sep-Oct, 24-32.
- [4] Bettman, J. R., *An Information Processing Theory of Consumer Choice*, Addison-Wesley, USA, 1979.
- [5] Chen, Q. and W. D. Wells, "Attitude toward the site," *Journal of Advertising Research*, 1999, Sep/Oct, Vol. 39, Iss. 5, 27-37.
- [6] Childers, et al., "Hedonic and utilitarian motivations for online retail shopping behavior," *Journal of Retailing*, 2001, 77, 511-535.
- [7] Coyle, J. R. and E. Thorson, "The effects of progressive levels of interactivity and vividness in web marketing sites," *Journal of Advertising*, 2001, XXX, 3, Fall, 65-77.
- [8] Davis, F. D., "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Quarterly*, 1989, 13, 3, 319-340.
- [9] Dholakia, U. M. & L. L. Rego, "What makes commercial web pages popular? An empirical investigation of web page effectiveness," *European Journal of Marketing*, 1998, 32, 7-8, 724-737.
- [10] Dreze, X. & F. Zufryden, "Testing web site design and promotional content," *Journal of Advertising Research*, 1997, Mar/Apr, 77-91.
- [11] Eisenmann, T. R., *Internet Business Models - text and cases*, McGraw-Hill company, USA, 2002.
- [12] Gupta, S. and C. Rabikar, "Consumer and corporate adoption of the world wide web as a commercial medium," in Peterson, R. (Ed.), *Electronic Marketing and the Consumer*, Sage, USA, 1997.
- [13] Hair, J. F., R. E. Anderson, R. L. Tatham, and W. C. Black, *Multivariate Data Analyses – 5th edition*, Prentice Hall, USA, 1998.
- [14] Hofacker, C. F. & J. Murphy, "World wide web banner advertisement copy testing," *European Journal of Marketing*, 1998, 32, 7-8, 703-713.
- [15] Huang, M. H., "Information load: its relationship to online exploratory and shopping behavior," *International Journal of Information Management*, 2000, 20, 337-347.
- [16] Jeong, M. and C. U. Lambert, "Adaptation of an information quality framework to measure customers' behavioral intentions to use lodging web sites," *Hospitality Management*, 2001, 20, 129-146.
- [17] Johnson, B. et al., "Ad age's cybermarketing leaders," *Advertising Age*, 1995, Sept 18, 66, 37.
- [18] Keeling, K. A., D. Fowler, & P. J. McGoldrick, "Electronic banking customers: determinants of adoption and retention," *Proceedings of the 27th EMAC Conference*, 1998, Stockholm, Sweden, 6, 535-554.
- [19] Keeling, K.A. and P. J. McGoldrick, "The acceptance of electronic shopping: a question of control?," *Proceedings of the 26th EMAC Conference*, 1997, Warwick, UK, 2, 669-688.
- [20] Liang, T. P. & J. Huang, "An empirical study on consumer acceptance of products in electronic markets: a transaction cost model," *Decision Support Systems*, 1998, 24, 1, 29-43.
- [21] Lutz, R. J., "The role of attitude theory in marketing," in *Perspectives in Consumer Behavior*, 4th ed., Prentice-Hall, USA, 1991, 317-339.
- [22] McMurdo, G., "Evaluating web information ad design," *Journal of Information Science*, 1998, 24, 3, 192-205.
- [23] Pereira, R. E., "Factors influencing consumer perceptions of web-based decision support systems," *Logistics Information Management*, 1999, 12, 1/2, 157-181.
- [24] Singh, S. N. and N. P. Dalal, "Web home pages as advertisements," *Communications of The ACM*, 1999, 42, 8, 91-98.
- [25] Stevenson, J. S., G. C. Bruner II, and A. Kumar, "Webpage background and viewer attitudes," *Journal of Advertising Research*, 2000, Jan/Apr, 29-34.
- [26] Supphellen, M. and H. Nysveen, "Drivers of intention to revisit the websites of well-known companies- The role of

corporate brand loyalty," *International Journal of Market Research*, 2001, 43, 3, 341-352.

[27] Vrolijk, H. et al., "Experimental research on the effectiveness of web sites," *Proceedings of the 27th EMAC Conference*, 1998, Stockholm, Sweden, 4, 299-311.

[28] White, M. D., E. G. Abels, & L. Murnane, "What constitutes adoption of the web: a methodological problem in assessing adoption of the world wide web for electronic commerce," *Proceedings of the ASIS Annual Meeting*, 1998, 35, 217-226.

[29] Wu, C. M., "Factors influencing web users' attitude and

shopping intentions - a online bookstore shopping context," *Information Management Research* (in Chinese), 1997, 2, 1, 1-22.

[30] Wu, C. M., "The causal relation between the characteristics of web, web users attitude and intention to purchase," *Journal of Business Administration* (in Chinese), 2000, 46, 33-48.