

The Effects of Attitude, Subjective Norm, and Perceived Behavioral Control on Consumers' Purchase Intentions: The Moderating Effects of Product Knowledge and Attention to Social Comparison Information

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ABSTRACT

The purpose of this research is to investigate whether the relative influences of attitude, subjective norm, and perceived behavioral control on consumers' purchase intentions will be different when consumers possess different levels of product knowledge (subjective and objective) and attention to social comparison information (ATSCI). As proposed by the theory of planned behavior, consumers' purchase intentions are affected not only by their attitudes, but also by their group's influences and their own perceived control. The relative strength of effects of these three factors on consumers' purchase intentions is expected to vary across behaviors and situations.

The results showed that the relative importance of attitude, subjective norm, and perceived behavioral control in the prediction of intention varies when consumers possess different levels of subjective product knowledge and ATSCI. Subjective knowledge is a moderating variable for the relationship between perceived behavioral control and purchase intention, while ATSCI was a moderating variable for the relationship between attitude and purchase intentions, and for the relationship between subjective norm and purchase intention.

This research has strong implications for marketers. It can help them develop more effective marketing programs to affect consumers' purchase intentions. In addition, the study is one of a few studies that applies the theory of planned behavior in the marketing field.

Key Words: Theory of Planned Behavior, Product Knowledge, Group Influences, Perceived Behavior Control

I. Introduction

The theory of reasoned action (Fishbein, 1967; Fishbein & Ajzen, 1975) is one of the most influential models in predicting human behavior and behavioral dispositions. The theory proposed that behavior is affected by behavioral intentions which, in turn, are affected by attitudes toward the act and by subjective norm. The first component, attitude toward the act, is a function of the perceived consequences people associate with the behavior. The second component, subjective norm, is a function of beliefs about the expectations of important referent others, and his/her motivation of complying with these referents. The model received a lot of support in empiri-

cal studies of consumer behavior and social psychology related literature (Ryan, 1982; Sheppard, Hartwick, & Warshaw, 1988). It, however, has limitations in predicting behavioral intentions and behavior when consumers do not have volitional control over their behavior (Ajzen, 1991; Taylor & Todd, 1995). The theory of planned behavior was proposed to remedy these limitations (Ajzen, 1985, 1991). It includes another source that will have influence on behavioral intentions and behavior, perceived behavioral control, in the model.

The theory of planned behavior proposes that perceived behavioral control of the focal person in a decision making situation may affect his/her behavioral intentions. Perceived behavioral control is more important in influ-

encing a person's behavioral intention particularly when the behavior is not wholly under volitional control. For example, when purchasing an innovative product, consumers may need not only more resources (time, information, etc.), but also more self-confidence in making a proper decision. Therefore, perceived behavioral control becomes a salient factor in predicting a person's behavioral intention under this purchasing situation.

The purpose of this research is to investigate whether the influences of attitude, social norm, and personal control on consumers' purchase intentions will be different when consumers possess different levels of product knowledge (subjective and objective) and different degrees of attention to social comparison information (ATSCI). As described by Ajzen (1991), the relative importance of attitude, subjective norm, and perceived behavioral control in the prediction of intention is expected to vary across behaviors and situations. Examining the moderating effects of product knowledge and ATSCI in the planned behavior model can enhance the knowledge of this research paradigm.

This research has strong implications for marketers. It can help them develop more effective marketing programs to affect consumers' purchase intentions under different situations. In addition, the study is one of a few studies which applies the theory of planned behavior (Ajzen, 1985, 1991) in the marketing field.

II. Literature Review

The theory of planned behavior is an extension of the theory of reasoned action made necessary by the original model's limitations in dealing with behaviors over which people have incomplete volitional control (Ajzen, 1991). As discussed by Liska (1984) and other researchers (Sheppard et al., 1988), the theory of reasoned action cannot deal with behaviors that require resources, cooperation, and skills. In response to the criticism about the model, Ajzen (1985) proposed an adjusted model called "theory of planned behavior." The extent to which one's intentions to perform behaviors can be carried out depends in part on the amount of resources and control one has over the behavior. That is, the resources and opportunities available to a person must, to some extent, dictate the likelihood of behavior achievement.

Perceived behavioral control reflects beliefs regarding the access to resources and opportunities needed to perform a behavior. It may encompass two components (Ajzen, 1991; Taylor & Todd, 1995). The first component reflects the availability of resources needed to engage in the behavior. This may include access to money, time, and other resources. The second component reflects

the focal person's self-confidence in the ability to conduct the behavior.

The concept of perceived behavioral control is most compatible with Bandura's (1977, 1982) concept of perceived self-efficacy which is concerned with judgement of how well one can execute required actions to deal with specific situations. People's behaviors are strongly influenced by their confidence in their ability to perform them. The theory of planned behavior places the construct of self-efficacy within a more general framework of the relations among attitude, subjective norm, and behavioral intention.

The theory of planned behavior has received broad support in empirical studies of consumption and social psychology related literature (Ajzen, 1991; Ajzen & Driver, 1992; Ajzen & Madden, 1986; Taylor & Todd, 1995).

1. The Moderating Role of Product Knowledge

The level of a consumer's product knowledge may affect his/her information and decision-making behavior (Brucks, 1985; Park, Mothersbaugh, & Feick, 1994). Two knowledge constructs have been distinguished (Brucks, 1985; Park et al., 1994). The first one is objective knowledge: accurate information about the product class stored in the long term memory. The second one is subjective knowledge: people's perceptions of what or how much they know about a product class.

Although subjective and objective knowledge are related, they are distinct in two aspects (Alba & Hutchinson, 1987; Brucks, 1985). First, when people do not accurately perceive how much or how little they actually know, subjective knowledge may over or under estimate one's actual product knowledge. Second, measures of subjective knowledge can indicate self-confidence levels as well as knowledge levels. That is, subjective knowledge can be thought of as including an individual's degree of confidence in his/her knowledge, while objective knowledge only refer to what an individual actually knows.

As discussed in the previous section, one component of perceived behavioral control in the theory of planned behavior reflects a person's self-confidence in the ability to conduct the behavior. If a person has strong subjective product knowledge, s/he will have higher confidence in the ability to carry on the consumption behavior. His/her attitude toward the act already shows this confidence. The attitude toward the behavior can overshadow the effect of perceived behavioral control. Therefore, the effect of perceived behavioral control on behavioral intention will be weaker when consumers have high subjective product knowledge.

On the other hand, if a person has lower subjective product knowledge, s/he will have less confidence in the ability to carry out the consumption behavior. When forming behavioral intention, attitude toward the act will not be the dominating antecedent. Perceived behavioral control, on the other hand, will become an important factor of consideration. Therefore, subjective, instead of objective knowledge, may moderate the relationship between perceived behavior control and behavioral intention. Therefore, it is hypothesized that:

H1a: The effect of attitude on behavioral intention will be stronger when the consumers have a high level of subjective product knowledge than when consumers have a low level of subjective product knowledge

H1b: Subjective product knowledge does not moderate the relationship between subjective norm and behavioral intention

H1c: The effect of perceived behavioral control on behavioral intention will be stronger when the consumers have a low level of subjective product knowledge than when consumers have a high level of subjective product knowledge

H2: Objective product knowledge does not moderate the relationship between the three antecedents (attitude, subjective norm, and perceived behavioral control) and behavioral intention

2. The Moderating Role of Attention to Social Comparison Information

People with different types of self concepts may have different types of experiences, cognition, emotions, and motivations (Markus & Kitayama, 1991). For example, people classified as independent believe that they are separated from the social context. They want to be unique and be able to express themselves. On the other hand, people classified as interdependent think that they are connected to the social context. They want to belong to a group and promote others' goals. They consider that relationships with others in specific contexts define the self. Therefore, they use others for social comparison and reflected appraisal. Personality factors can be the central reason for affecting the relationship between attitude and behavioral intention. Several studies in the attitude function school have demonstrated that personality variation can create significantly different requirements of attitude functions (Bearden & Rose, 1990; DeBono, 1987; DeBono & Packer, 1991; Snyder & DeBono, 1985). For example, Snyder

and DeBono (1985) used personality assessment to operationalize attitude functions. They argued that high self-monitoring individuals, who strive to fit into various social situations, should tend to form attitudes that serve the social adjustment function. In contrast, low self-monitoring individuals, who strive to remain true to their inner values and attributes, will tend to form attitudes that serve the value expressive function. To investigate these hypotheses, they created ads in pictures and words that represented either image oriented or quality oriented messages to consumers. The results showed that high self-monitoring consumers thought the image oriented ad was better, more appealing, and more effective. By contrast, low self-monitoring consumers preferred the quality oriented ads. Similarly, in a persuasion study regarding deinstitutionalization of the mentally ill, DeBono (1987) demonstrated that high self-monitoring subjects expressed attitudes that were more opposed to deinstitutionalization when they heard the social adjustment messages opposing deinstitutionalization than when they heard the attribute evaluative messages. On the other hand, low self-monitoring subjects displayed significantly negative attitudes toward deinstitutionalization after hearing the attribute evaluative message.

DeBono and Packer (1991) also found that high self-monitoring subjects rated the quality of a product higher than low self-monitoring subjects did after watching image-oriented ads, while low self-monitoring subjects rated the quality of a product higher than high self-monitoring subjects did after watching quality-oriented ads. Using a different methodological approach, DeBono and Edmonds (1989) showed that the basic theory about personality influences still holds. They induced high and low self-monitoring subjects to write counterattitudinal essays. One group of subjects was led to believe that their positions was opposed to the majority, while the other group of subjects was led to believe that their position was contrary to their personal values. The results showed that high self-monitoring subjects modified their attitudes in the direction of their essays more in the social adjustive situation than in the value expressive situation. On the other hand, low self-monitoring subjects modified their attitudes in the direction of their essays more in the value expressive situation than in the social adjustive situation.

Although Snyder's self-monitoring scale achieved several empirical justifications, this scale was criticized for lacking reliability and multidimensionality. The Attention-To-Social-Comparison-Information (ATSCI) scale is a result of these critiques (Lennox & Wolfe, 1984). ATSCI was demonstrated to be internally consistent, valid, and capable of mediating the relative effects of interpersonal consideration (Bearden & Rose, 1990; Lennox &

Wolfe, 1984).

Using the Attention-To-Social-Comparison-Information (ATSCI) scale, Bearden and Rose (1990) found that persons scoring high in ATSCI were more aware of others' reactions to their behavior and were more concerned about the nature of those reactions than persons scoring low in ATSCI. Therefore, it is hypothesized that:

H3a: The effect of attitude on behavioral intention will be stronger when the consumers have low ATSCI than when consumers have high ATSCI

H3b: The effect of subjective norm on behavioral intention will be stronger when the consumers have high ATSCI than when consumers have low ATSCI

H3c: ATSCI does not moderate the relationship between perceived behavioral control and behavioral intention

III. Methodology

1. Experimental Stimuli

A. Product type

A laser printer was chosen as the object for this research. In a pre-test, it was found that computer printer can generate a significant amount of statements regarding perceived behavioral control and subjective norm when subjects were asked about their criteria for purchasing a computer printer.

B. Product concept

A product concept for the printer was developed. The concept gives not only the reader the benefit of the product, but also the reason why. The printer employs a new technology called "Neo-Laser Technology." The performance of the printer was claimed to be comparable to those of a normal laser printer but at a more reasonable price.

C. Subjects

300 student subjects from universities around northern Taiwan were recruited for the study. The subjects were junior or senior college students and majored in business (or other social science related majors). Seven universities (three of them are public universities and others are private universities) in the northern part of Taiwan were included in the sampling frame. Student subjects were used in this study because the experiment object, com-

puter printer, is a relevant product for college students and college students are important targets for computer printer marketers.

Basic information of the subjects is presented in Table 1. The average age of respondents are around 21.37 years old. Forty-eight percent of the subjects are male. Forty five percent of the subjects own a computer printer.

D. Questionnaire

The Chinese questionnaire was developed by applying Brislin's (1980) recommendation to minimize the problem of lack of equivalence between the Chinese and English version. The English version of the questionnaire was translated into Chinese and back translated into English to check the translation's accuracy. Different translators were used in these two stages. When a major inconsistency occurred in the translation, a discussion between two translators was conducted to reconcile the differences. The precise wording of the questionnaire is decentered away from the original language version and adjusted so that it is smooth and natural sounding, as well as equivalent, in both language.

E. Procedures

The research was conducted in the students' regular class sections. To increase subjects' involvement in the study, all subjects were informed that the product or service would be available in the area in the near future. After the subjects reviewed the product concept, they were asked about their overall reactions, attitude, subjective norm, perceived behavioral control, and purchase intention.

F. Measures

Attitudes toward the product concept were measured by 7-point semantic differential scales reflecting overall favorable/unfavorable, bad/good, foolish/wise, and harmful/beneficial. The four scales were drawn from Petty, Cacioppo, and Schumann's (1983) and Osgood, Suci, and Tannenbaum's (1957) attitude measurement scales. Purchase intentions were measured by asking whether the subject would actually purchase the product when it is available in the market on three 7-point semantic differential

Table 1. Basic Characteristics of the Sampled Subjects

Basic Information	Mean	Variances
Age	21.37	2.55
Male (%)	48%	0.25
Percentage of Owning a Computer Printer	45%	0.25

scales, unlikely/likely, uncertain/certain, and impossible/possible (Ajzen & Fishbein, 1980).

The measurement of subjective norm and perceived behavioral control were based on scales developed by Ajzen and Fishbein (1980), Ajzen (1985, 1991), and Taylor and Todd (1995). Subjective norm was measured by asking “Most people who are important to me would probably consider my purchasing this computer printer to be ____.” Respondents were required to answer on 7-point semantic differential scales reflecting foolish/wise, useless/useful, and worthless/valuable. Respondents were also required to answer the question stated as “Most people who are important to me would probably think I ____ buy this computer printer” on a 7-point differential scale reflecting definitely should/definitely should not. Perceived behavioral control was measured by asking the following questions, (1) how much control do you have, (2) for me to buy this computer printer is ____, (3) if I want I could easily buy this computer printer, (4) it is mostly up to me whether or not I will buy this computer printer. The respondents were asked to answer the above questions on 7-point semantic scales.

The Attention-To-Social-Comparison-Information (ATSCI) scale developed by Lennox and Wolfe (1984) were administrated to each subject. The ATSCI scale is a revision of Snyder’s self-monitoring scale (Appendix A). It was demonstrated to be internally consistent, valid, and capable of mediating the relative effects of interpersonal consideration (Bearden & Rose, 1990).

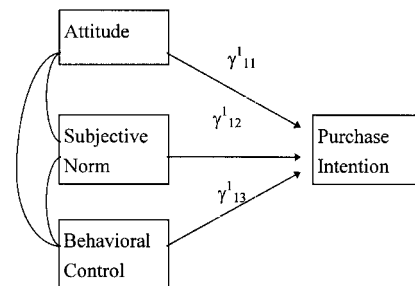
Subjective product knowledge was measured by asking: (1) compared to average persons, rate your knowledge of how much you know about a computer printer; (2) compared to average persons, rate your knowledge of how much you know about different brands of computer printer; (3) compared to average persons, rate your knowledge of how much you know how to buy a computer printer; and (4) please indicate how much information you have searched about computer printers. The subjects were required to answer questions on 7-point semantic scales.

There are two steps in developing objective knowledge scales. First, ten true/false questions were developed by consulting computer printer experts. Second, the ten questions were administrated to one expert subject group (i.e., employees from computer printer related industry) and one novice subject group (i.e., college students). The mean scores were calculated to see whether the questions can distinguish expert subjects from novice subjects. The results showed that eight out of the ten questions have strong and significant discriminatory power in separating expert and novice subjects. Therefore, only eight questions were administrated in the final questionnaire. These questions are attached in the Appendix B.

2. Data Analysis Method

In order to compare the path coefficients between models, LISREL program was applied to analyze the data (Joreskog & Sorbom, 1989). The independent variables are attitude, subjective norm, and perceived behavioral control. The dependent variable is purchase intention (Figure 1). Similar to the specification of the original model by Ajzen (1985), the correlations among independent variables were freed in estimating the model coefficients. The scores of the four major constructs were calculated based on the mean score of their indicators. The Cronbach Alpha for the four constructs are presented in Table 2. As shown in the table, the reliabilities of the four

Group I



Group II

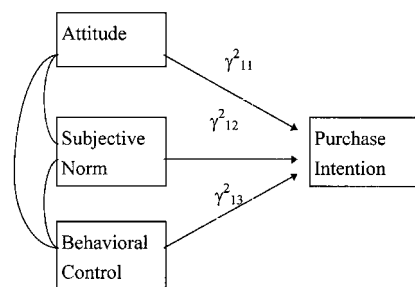


Fig. 1. Path Model of the Research Framework

Table 2. The Reliability of Major Constructs

	Cronbach α	Mean	Variance
Attitude	0.95	4.69	1.68
Subjective Norm	0.94	4.43	1.77
Perceived Behavioral Control	0.87	4.61	2.57
Purchase Intention	0.88	3.79	1.97
Attention to Social Comparison Information	0.80	4.91	1.78
Subjective Product Knowledge	0.93	3.36	2.29
Objective Product Knowledge*	0.63	0.21	0.04

* True/false questions

constructs are satisfactory. All of them are higher than 0.80 except the objective knowledge.

To test the moderating effect for each moderating variable (i.e., subjective product knowledge, objective product knowledge, and attention to social comparison information), there are two stages in the data analyzing process. In the first stage, the sample is divided into two groups based on the subject’s score ranking of the specific moderating variable. Therefore, for subjective product knowledge, there is a high subjective knowledge group and a low subjective knowledge group. For objective product knowledge, there is a high objective knowledge group and a low objective knowledge group. Finally, for ATSCI, there is a high ATSCI group and a low ATSCI group. For each group, a path model using the LISREL program is calculated. Path coefficients (γ in LISREL term) are used to test the significance of each independent variable.

At the second stage, the moderating effect of each moderating variable is tested. Since there are two groups for each moderating variable, two group stacked models are used to test whether the individual gamma coefficients are equal between two groups. For example, to test whether the path coefficient between attitude and purchase intention are equal between two groups, γ_{11}^1 is specified to be equal to γ_{11}^2 . The Chi-squared value difference between the restricted model and the base model is used to test the equality of the path coefficient.

3. Results

The results of the model estimation are presented in Tables 3, 4, and 5.

A. The Moderating Effect of Subjective Knowledge

The results of the path coefficients showed that all three independent variables (i.e., attitude, subjective norm,

and perceived behavioral control) had significant effects on purchase intention in the low subjective knowledge group ($t = 2.02, p < 0.02; t = 3.20, p < 0.001; t = 6.39, p < 0.0001$, respectively) (Table 3). However, only attitude and subjective norm had significant effects on purchase intention in the high subjective knowledge group ($t = 2.75, p < 0.001; t = 3.97, p < 0.0003$, respectively). This is consistent with the discussion in the literature review section. That is, perceived behavioral control reflects a person’s self-confidence in the ability to form behavioral intention. When a person has a high level of self-confidence in evaluating a product purchasing decision, perceived behavioral control will not be a major issue in influencing his/her intention. On the other hand, when a person has a low level of self-confidence, perceived behavioral control will become a salient factor in affecting his/her behavioral intention.

The results of the equality constraint model also showed that γ coefficients depicting the relationship between perceived behavioral control and purchase intention were significantly different between the two groups (χ^2 differences = 11.51, $p < 0.0001$) (Table 3). That is, the effect of perceived behavioral control on behavior intention was stronger when consumers have low subjective product knowledge than when consumers have high subjective knowledge. Subjective knowledge moderated the relationship between perceived behavior control and behavioral intention. Therefore, H1b and H1c were supported by the data.

B. The Moderating Effect of Objective Knowledge

The results of the path coefficients showed that all three independent variables (i.e., attitude, subjective norm, and perceived behavioral control) had significant effects on the purchase intention in both the low and the high objective knowledge group (Table 4). The results of the

Table 3. The Results of the Moderating Effects of Subjective Knowledge

	High Subjective Knowledge Group	Low Subjective Knowledge Group	The difference between the restricted model and the base model
	γ Coefficient (t-value)	γ Coefficient (t-value)	$\Delta\chi^2$ (p-value)*
The Effect of Attitude on Purchase Intention	0.26 (2.75)	0.17 (2.02)	0.46 (0.50)
The Effect of Subjective Norm on Purchase Intention	0.38 (3.97)	0.28 (3.20)	0.58 (0.45)
The Effect of Perceived Behavioral Control on Purchase Intention	0.10 (1.52)	0.42 (6.39)	11.51 (0.0001)

* $\Delta\chi^2$ = the difference of χ^2 value between the restricted model and the base model.

Table 4. The Results of the Moderating Effects of Objective Knowledge

	High Objective Knowledge Group	Low Objective Knowledge Group	The difference between the restricted model and the base model
	γ Coefficient (t-value)	γ Coefficient (t-value)	$\Delta\chi^2$ (p-value)
The Effect of Attitude on Purchase Intention	0.19 (2.06)	0.19 (2.01)	0.001 (0.98)
The Effect of Subjective Norm on Purchase Intention	0.38 (4.10)	0.33 (3.24)	0.11 (0.73)
The Effect of Perceived Behavioral Control on Purchase Intention	0.21 (3.05)	0.30 (4.24)	0.92 (0.34)

Table 5. The Results of the Moderating Effects of ATSCI

	High ATSCI Group	Low ATSCI Group	The difference between the restricted model and the base model
	γ Coefficient (t-value)	γ Coefficient (t-value)	$\Delta\chi^2$ (p-value)*
The Effect of Attitude on Purchase Intention	0.05 (0.63)	0.36 (3.60)	5.47 (0.02)
The Effect of Subjective Norm on Purchase Intention	0.45 (5.09)	0.21 (2.09)	3.08 (0.08)
The Effect of Perceived Behavioral Control on Purchase Intention	0.29 (4.33)	0.24 (3.63)	0.29 (0.59)

equality constraint tests also showed that γ coefficients for all three relationships were not significantly different between the two groups (Table 4). That is, objective knowledge did not moderate the relationship between the three antecedents and behavioral intention. This is also consistent with the discussion in the literature review section. Objective knowledge reflects one’s true knowledge about the subject matter. It does not contain a person’s self-confidence in the ability to form behavioral intention. Therefore, the effects of the three antecedents on behavior intention were equal between the two groups. Therefore, H2 was supported by the data.

C. The Moderating Effect of ATSCI

The results of the path coefficients showed that all three independent variables (i.e., attitude, subjective norm, and perceived behavioral control) had significant effects on the purchase intention in the low ATSCI group ($t = 3.60, p < 0.0004$; $t = 2.09, p < 0.02$; $t = 3.63, p < 0.0003$, respectively) (Table 5). However, only subjective norm and perceived behavioral control had significant effects on purchase intention in the high ATSCI group ($t = 5.09,$

$p < 0.0001$; $t = 4.33, p < 0.0001$, respectively) (Table 5). The results of the equality constraint model showed that the γ coefficients depicting the relationship between attitude and purchase intention, and the relationship between subjective norm and purchase intention were significantly different between the two groups (χ^2 differences = 5.47, $p < 0.02$; χ^2 differences = 3.08, $p < 0.08$, respectively) (Table 5). The effect of attitude on behavioral intention was stronger when consumers have low ATSCI than when consumers had high ATSCI. On the other hand, the effects of subjective norm on behavioral intention were stronger when consumers had high ATSCI than when consumers have low ATSCI.

These results are also consistent with discussion in the literature review section. When consumers possess high degree of ATSCI, they will pay more attention to other’s opinion than those who have low ATSCI when forming behavioral intention. The results also showed that the effect of attitude on purchase intention will become insignificant when consumers have high ATSCI. This means that for the high ATSCI consumer, personal attitude may be overshadowed by other’s opinion. This demonstrated that ATSCI is a strong moderator in the relation-

ship between attitude and purchase intention, and the relationship between subjective norm and behavioral intention. Therefore, H3a, H3b, and H3c were supported by the data.

IV. Discussion and Implications

This study showed that the relative importance of attitude, subjective norm, and perceived behavioral control in the prediction of intention varies when consumers possess different subjective product knowledge or social information comparison disposition. Subjective knowledge was a moderating variable for the relationship between perceived behavioral control and purchase intention, while ATSCI was a moderating variable for the relationship between attitude and purchase intention, and the relationship between subjective norm and purchase intention.

Based on these results, there are several marketing implications for marketers.

1. Product Marketing

When purchasing a product without much volitional control, consumers may need not only more resources (time, information, etc.), but also more self-confidence in making a suitable decision. Marketers should have to try not only to ease consumers' effort in processing product message, but also to promote consumers' perceived behavioral control. For example, they can use more demonstrations to show the product's performance. They also can invite expert celebrities to sponsor the product in order to enhance consumers' confidences.

2. Consumer Attitude Measurement

In most types of the standard market studies such as product testing and concept testing, personal attitudes toward the product are the major questions in the measurement. Subjective norm normally is not included in the measurement. This kind of omission will not adequately capture all antecedents of purchase intention for consumers with high ATSCI requirements. To accurately estimate this group of consumers' purchase intentions, subjective norm must be included in the questionnaire. In addition, for products that need a lot of knowledge and self-confidence for consumers, perceived behavior control should be included in the measurement.

3. Communication Channel

To reach different consumer segments, marketers should be very versatile in adopting communication

channels. To influence high ATSCI consumers effectively, traditional media (i.e., TV, radio, and newspaper, etc.) is not enough. The communication media should be considered as the stimulus for enhancing the effectiveness of the inter-personal channel. In addition, marketers also should explore which kind of reference/social groups has the most influential power in persuading the consumers to adopt their products. The communication program should reach all these groups instead of the target markets only. Let members in the social/reference group get acquainted with the product and know its benefits. This can reduce the resistance from these groups.

V. Limitations and Future Research

Several issues for future research need to be addressed. First, future research should identify more product characteristics that can affect the results. In this study only one product type, the computer printer, was examined. Other product types can be explored in future studies. Second, consumers in different countries may have different sources of social pressure. Researchers can find out the most influential reference group for each specific national culture. For example, the most important reference/social group for Chinese may be the family and the extended family (Yang, 1972), while for Japanese, it may also include their colleagues (Hall, 1976). Identifying the reference/social groups for each society can help marketers design a more effective marketing programs. Furthermore, different groups may exert a different influencing power on the individual for his/her consumption decisions regarding different product types. Future research should explore more contingency variables for these situations.

Third, the use of student subjects may limit the generalizabilities of the findings. It is possible that people in different generations possess dramatically different ATSCI propensity. For example, older generations are normally considered to be more collectivist than younger generations (Hofstede, 1983; Triandis, 1994). Subjective norm may have stronger effect on purchase intention if older generation subjects were studied.

Finally, this study can be extended to be an international comparative study. Lee and Green (1991) found that subjective norm was a significant predictor for behavioral intention in Korea, while attitude was found to overshadow the influence of subjective norm in the United States. These results demonstrated that the strength of social influences are different in different cultural environments. It is important to explore whether the effect of perceived behavioral control on purchase intention varies in different cultures.

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Appendix A

The Attention to Social Comparison Information Scale

1. It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.
2. I actively avoid wearing clothes that are not in style.
3. At parties I usually try to behave in a manner that makes me fit in.
4. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.
5. I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.
6. I find that I tend to pick up slang expressions from others and use them as part of my vocabulary.
7. I tend to pay attention to what others are wearing.
8. The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.
9. It's important for me to fit into the group I'm with.
10. My behavior often depends on how I feel others wish me to behave.
11. If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.
12. I usually keep up with clothing style changes by watching what others wear.
13. When in a social situation, I tend not to follow the crowd, but instead behave in a manner that suits my particular mood at the time.

Appendix B

Please answer the following questions. If the statement is true, please circle "True." If the statement is wrong, please circle "False." If you don't know, please circle "Don't Know"

Don't
True False Know

- | | | | |
|---|---|---|---|
| T | F | D | 1. Generally speaking, ink-jet cartridges for ink-jet printers are expensive, making operating costs more expensive than a laser or a dot-matrix printer. |
|---|---|---|---|

- | | | | |
|---|---|---|--|
| T | F | D | 2. Ink-jet printers use xerographic technology. |
| T | F | D | 3. An Ink-jet printer normally requires less electronic energy than a laser or a dot-matrix printers. |
| T | F | D | 4. The term "dbi" is used to measure printing quality. |
| T | F | D | 5. The image of an ink-jet printer is electronically created on a light-sensitive drum. A powdered toner sticks to the area where light touches the drum and then transfers to a sheet of paper. |
| T | F | D | 6. A daisy wheel printer is one kind of dot-matrix printer. |
| T | F | D | 7. Normally "ppm" is used to measure the printing speed of a dot-matrix printer. |
| T | F | D | 8. Other thing being equal, the larger the memory of a printer, the better the "spooling" function for the computer system. |

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Attitude, Subjective Norm, and Perceived Behavioral Control

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態度、群體規範、及知覺行為控制 對消費者購買意圖之影響： 產品知識與社會比較資訊 重視程度的干擾效果

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摘要

消費者在購買一件產品時，他／她的購買意圖除了受本身的態度所影響之外，主觀群體規範及個人行為主控能力亦是很重要的影響因素。當該消費者所屬的群體擁有很強的約束力時，他／她在做消費決策時，往往必須考慮別人的想法，及該消費行為對他／她所屬群體的影響。同樣的，當他／她對該消費決策缺乏主控權時，他／她本身的態度(attitude)亦不能很精確的預測他／她的購買意圖。不過根據計畫行為理論，本身的態度、主觀群體規範、及知覺行為控制對購買意圖之相對影響，可能會因消費者的產品知識能力及社會比較資訊的重視程度之不同而有所不同。

本研究發現，當個人主觀認知的知識能力比較弱時，其個人知覺行為控制比較能有效的預測購買意圖，相反的，當個人主觀認知的知識能力比較強時，其個人知覺行為控制的高低就不能顯著的預測購買意圖。另外，當個人對社會比較資訊的重視程度較高時，其主觀群體規範比較能有效的預測購買意圖，相反的，當個人對社會比較資訊的重視程度較低時，其主觀群體規範對購買意圖的預測能力就比較弱。最後，當個人對社會比較資訊的重視程度比較高時，其個人態度亦無法顯著的預測購買意圖。

瞭解在不同產品知識及不同的社會比較資訊重視程度下，消費者本身的態度、主觀群體規範、及個人知覺行為控制對購買意圖之影響程度，可以讓從事行銷者在設計行銷方案時，研擬出有效影響消費者購買意圖的方案。此外本研究亦是目前少數把Ajzen (1985, 1991)的the Theory of Planned Behavior 應用於行銷相關研究。

關鍵詞彙：計畫行為理論，產品知識，群體影響，知覺行為控制