

The Personality Attributes and Leisure Activities of the Internet Users: A Taiwanese case study

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ABSTRACT

This study aims to examine the relationship between the personality attributes of Internet users and their leisure activities.

A questionnaire survey was undertaken which revealed that most Internet users are single males aged between 21-30 belonging to the lower income groups, employed in information technology or related fields. The personality attributes of the sample showed a tendency towards a mixed locus control category.

The survey indicated that the preferred leisure activities of this population group are reading, collecting and computer-based activities. However, 'movement' and collecting were the only leisure activities to show a significant correlation with the users' personality attributes.

INTRODUCTION

"The Internet is a global network of networks enabling computers of all kinds to directly and transparently communicate and share services throughout much of the world." (Internet Society, 1998). The number of hosts on the Internet has roughly tripled between January 1994 and January 1996 (Gray, 1996). It has been estimated that there will be some 40% annual growth in user population until the year 2000 and 43.2 million hosts will have been connected to the Internet by then (Network Wizards, 1999). In Taiwan, there are more than 200,000 users, which represents the second largest user population amongst south east Asian countries after Japan and the ninth largest in the world (Internet Society, 1998).

Not only has the usage of internet increased as a global communications medium, it has also become more sophisticated and dynamic to accommodate more features and functions. Although the internet services initially started to e-mails, FTP file transmissions and remote login, other services are now provided such as Gopher, Netnews, Internet BBS, Archie, Database, TALK and the Worldwide Web (WWW). A recent survey conducted by Yahoo indicated that, amongst the services provided on the Internet, e-mails are used by 91% of users. The other most popular features of the

Internet usage are the WWW, Netnews and TALK that account for 90%, 64% and 21%, respectively.

At present, the main Taiwanese Internet service providers are TANET (Taiwan Academic Network), SEEDNET and HINET. The TANET users are mainly academic and educational institutions. In contrast, SEEDNET and HINET provide the service for business users and individuals. Encouraged by government policy and influenced by the mass media, the number of users and its usage are expected to grow continuously in the next few years.

The levels of interest for Internet has increased dramatically in recent years partly because of the possibilities it offers in many ways for so many people and organization. It also constitutes a shared global resource of information, knowledge and means of collaboration, and cooperation among countless diverse communities. Local research in Taiwan focuses on the infrastructure and network communications for new marketing and business models in cyberspace. Initiated by experimental e-mail surveys and WWW surveys, some market researchers began to acquire knowledge about the users that broadened the scope of the research in this area. It was not until 1995 have researcher's interests shifted to developing an understanding of users or related subjects. Although they enhanced their methodology, there are still many limitations of the field study techniques.

This study concentrates on the following areas:

- (a) the demographics of the Internet users;
- (b) the personality attributes of the Internet users;
- (c) the preferred leisure activities amongst the Internet users;
- (d) if there is any correlation between the demographics and leisure activities amongst Internet users;
- (e) if there is any correlation between the personality attributes and the choice of leisure activities;
- (f) if there is any correlation between the demographics and personality attributes.

LITERATURE REVIEW

The following sections describe theoretical concepts detailed in the literature and illustrate how these concepts can be used to formulate hypotheses to address the research questions listed above. A questionnaire survey was then undertaken to establish whether these hypotheses could be accepted.

Innovative Theory

The use of Internet may be explained by innovative theory that is associated with users' choice of a new medium. Many studies suggested innovators frequently differ from later adopters in terms of their demographics (Robertson, 1971), social involvement and behaviour (Roger, 1983; Foxall and Goldsmith, 1994) and personal traits and perceptions (Midgley, 1977; Robertson, 1971; Ostlund, 1974; Goldsmith, 1987). Therefore, to understand the behaviour of Internet users, it is important to analyse the underlying characteristics of their profiles.

Segmentation Theory

Heterogeneity of decision outcomes influenced by increasingly complex external stimuli and internal factors (Howard and Sheth, 1990) has become a research challenge for the behaviourists. As the external stimuli, such as marketing mix, can sometimes be manipulated, internal factors therefore require further investigation so that consumer behaviour can be influenced. The basis of segmentation studies is that one's personal profile and characteristics can be used to predict behaviour outcomes (Onkvisit and Shaw, 1994). There are four bases for segmenting consumers: geographic, demographic, psychographic and behavioural (Haley, 1984; Kotler, 1997). Furthermore, it is well documented in consumer behaviour studies that differences in personal profiles and characteristics determine a consumer's choice of media or shopping channels (Mai and Ness, 1997; Mai and Ness, 1998; Cox and Rich, 1964; Gillett, 1976; Peter and Ford, 1972; Cunningham and Cunningham, 1973). Different segments of consumers can be easily identified and accurately targeted if their characteristics are understood. With respect to the use of the Internet, the authors hypothesised that the users can be categorised in a similar segment according to their personal profiles and characteristics. In addition to the bases for segmentation, this research places particular emphasis on the users' personality attributes and leisure activities.

Personality

Behaviour studies focused on factors influencing the decision-making process. Personality traits have been suggested to be one of the more, important factors that influence consumer behaviour for decision making. Some studies have used personality-type variables in searching for an explanation for an individual's consumption (Horney, 1958). Psychological research has identified key dimensions of attributes that compose a person's personality (Gordon, 1999). Cattell and Kline (1977, p.V) stressed that "Personality is the natural core of psychological science, since the 'process' area – perception, memory, learning theory, physiological psychology – can only be effectively understood in relation to the unified organism". Therefore, personality is invoked to explain and to predict behaviour by measuring personality attributes. Rotter (1966) proposed a measure of personality by examining the degree of external and internal locus of control. *Internalisers* are those who feel that they control their own lives and actions, whereas *externalisers* believe others control their lives. Thus, this school of thought is incorporated into the research design in order to explain the personality attributes of Internet users.

Concepts of Leisure

Previous studies have indicated many sociological variables related to participation in specific leisure activities (Gudykunst, *et al*, 1981). Kaplan (1975) conceptualised 'leisure' like – religious, educational, marital, political, or other activity-experiences – exists within a cultural context. Although it is difficult to find a common agreement on the components for institution, Kaplan further summarised seven individual factors that may affect the choice, use and meaning of leisure; namely age, sex, income, work, place of residence, education and time. These conclusions were later confirmed in other studies; for example, males and females were found to have different

participation tendencies and attitudes towards leisure activities (Unkel, 1981; Gentry and Doering, 1979).

Research conducted by Reisman related the choice of leisure activities to personality types (Neulinger, 1974). Thus, the importance of demographic and personality influences have been established in a theoretical framework. The literature has long recommended conducting user-oriented studies to better understand user preferences and to predict anticipated future recreational demands (Heberlein, 1973).

Previous studies have identified at least five types of activities including social, the arts, games and sports, movement and immobility. Some studies have attempted to categorise together people whose patterns of behaviour are similar (Duncan, 1978). Similarly, this research is interested in investigating tendency of choice in leisure activities amongst Internet users and if there is any correlation between demographics and personality attributes.

HYPOTHESES

H1: Internet users tend to be the internal locus of control.

The internal locus of control group is less influenced by the external environment and can take more of their own initiative whereas the external locus of control group is more dictated by their surroundings. The characteristics of the Internet environment dictates that its users take the initiative to search, to communicate and to express themselves, which also demonstrates the characteristics of the personalities from the internal locus of control group. On the other hand, internet users can be constrained by their external influences which has led to them using the Internet as a means of expressing themselves.

H2: The leisure activities of Internet users tend to be computer related.

Internet users are less involved in social, artistic, games and sports and movement type of activities. They are more involved in immobility type of activities.

H3: Different personality attributes of Internet users enjoy different leisure activities.

The realisation of one's potential is a direct result of one's effort (Rotter, 1966). The same effort will not be sustained without positive reinforcement. Different personality attributes influence a person's choices, motivations and decisions. Therefore, it is possible to determine the relationship between personality attributes and their leisure activities.

METHODOLOGY

A survey was undertaken on Internet users of the three largest service providers in Taiwan - TANET, SEEDNET and HINET. These service providers offer a collection of different facilities including emails, FTP, ARCHIE, BBS, TELNET, GOPHER, etc.

These services can be accessed via phone connection, ISDN and LAN. Regardless the means of access, all users were defined as Internet users.

TANET users were excluded due to the nature of its users, namely academia whose inclusion may bias the representativeness of the sample population. Since SEEDNET is the most established service provider to a wide variety of users, it was decided that the study should be confined to them.

Questionnaire Design

The questionnaire was divided into three parts. The first part focused on the personality attributes, followed by the leisure activities measurement and the last part was comprised of the demographic details. The first part of the questionnaire design was based on the proposed scales by Wu and Wu (1975) which was a translated and slightly modified version of Rotter's I/E scale (1966). After pilot testing, the questionnaire was reworded to improve its readability and reliability. The measurement of leisure activities was based on a modified version of earlier research conducted by Chen *et al.* (1983). In particular, computing-related activities were introduced into the original questionnaire to improve its relevance to this research. Questionnaires were designed to measure the attributes and characteristics of the Internet users in three main categories: personality attributes, leisure activities and demographics. The five point Likert scale rating was used to measure the leisure activities.

Derivation of Variables

- (a) ***Locus of Control***, the degree to which people believe they are masters of their own fate. The first category is the internals who believe that they control what happens to them. Their attributes are typically positiveness, assertiveness and confidence. The second group is the externals who believe what happens to them is controlled by outside forces. Typically, people in this category are less confident and resistive to external environment. The last category is the mixed locus of control group who are in between.
- (b) ***Leisure Activities*** are divided into the following categories: social, art, games and sports, movement and immobility together with computing-related activities, reading and learning, and home-improvement.
- (c) ***Demographics***, variables including gender, age, marital status, level of education, income, place of residence, location of Internet access, years of Internet usage, time of the day of Internet access, frequency, most frequently used Internet facilities and the purpose of accessing the Internet.

Data Collection

A survey was conducted by emailing 5,000 questionnaires to a randomly stratified sample of user groups drawn from SEEDNET's shts, tcts, tptsl, ksts and tpts4 servers. The 412 responses represented a response rate of 8.24 %. Amongst the responses, 324 were identified as valid cases for the purpose of data analysis.

Data Analysis

The data were analysed using SPSS software. Frequency, percentiles and crosstabulation were employed as preliminary statistical procedures for data analysis. One-way ANOVA was used to test the significance of the differences between user groups.

RESULTS OF ANALYSIS

The internal consistency of the variables was tested by using a reliability test. The result of the reliability test on the personality attributes showed Cronbach's Alpha = 0.62. With respect to the leisure activities, the Cronbach's Alpha values for movement, reading and learning, social, art, games and sports, immobility, home-improvement and computer-related activities were 0.80, 0.61, 0.61, 0.79, 0.56, 0.73, 0.52 and 0.79, respectively.

Demographic Profiles

There were 205 male respondents representing 63% of the sample. The majority (66%) of the respondents were aged between 21 and 30 and most of them were single (73%). Nearly half of the Internet users have a degree; 13% of them have a postgraduate degree; and 26% have a higher national diploma. Regarding occupations, the results indicated that most Internet users were involved in an information technology related field (25%) followed by students (20%). The income was found to be relatively low amongst the user group, which may be a reflection of the proportion of students in the sample. The majority (80%) of the Internet users lived in the northern part of Taiwan. More than half the users accessed the Internet from home for surfing the World Wide Web and using e-mail. Accessing e-mail was perceived to be the most important reason to use the Internet followed by web browsing.

Table 1: Demographic Profile of the Internet Users

N= 324		
Variable	Frequency	Percentile (%)
Gender		
Male	205	63.3
Female	119	36.7
Age		
< 20	30	9.3
21 - 30	214	66.0
31 - 40	75	23.1
41 - 50	3	0.9
51 - 60	2	0.6
60 +		0.0
Marital Status		
Single	235	72.5
Married	83	25.6
Divorced	4	1.2
Live with your partner	2	0.6

Table 1: Demographic Profile of the Internet Users (continued)

N= 324

Variable	Frequency	Percentile (%)
Level of Education		
Postgraduate degree	42	13.0
Degree	159	49.1
Higher National Diploma	83	25.6
Senior Higher School	37	11.4
Junior Higher School	3	0.9
Primary School	0	0.0
Occupation		
Information technology or related filed	81	25.0
Student	66	20.4
Service industry	51	15.7
Public Servant	16	4.9
Commercial industry	50	15.4
Manufacturing industry	45	13.8
Agriculture	2	0.6
Military/Army related	2	0.6
Others	11	3.4
Income		
< NT\$ 20000	78	24.1
NT\$ 20001 – 30000	73	22.5
30001 – 40000	62	19.1
40001 – 50000	58	17.9
50001 – 60000	36	11.1
60001 – 70000	6	1.9
70000 +	11	3.4
Political Party		
None	242	74.7
KMT	50	15.4
DDP	17	5.2
NP	13	4.0
Others	2	0.6
Location of using Internet		
Northern Taiwan	273	84.3
Central Taiwan	29	8.9
Southern Taiwan	22	6.8
Place of using Internet		
Work (incl. School/university)	39	12.0
Home	180	55.6
Both	105	32.4
Using Internet		
Less than one year	185	57.1
More than 1 but less than 2 years	85	26.2
More than 2 but less than 3 years	46	14.2
More than 3 but less than 4 years	5	1.5
More than 4 years	3	0.9

Table 1: Demographic Profile of the Internet Users (continued)

N= 324

Variable	Frequency	Percentile (%)
Frequency of using Internet		
Every 1 – 3 days	254	78.4
Every 4 – 6 days	43	13.3
Every 7 – 9 days	19	5.9
Every 10 –12 days	3	0.9
Every 13 days or more	5	1.5
Length of using Internet per day		
<1 hr.	144	44.4
1 – 2 hrs.	118	36.4
More than 2 but less than 3 hrs.	30	9.3
More than 3 but less than 4 hrs.	11	3.4
More than 4 but less than 5 hrs.	4	1.2
More than 5 hrs.	17	5.2

Table 2 The Use of the Internet

Variable	Frequency	Percentile
Facilities		
WWW	293	90.4
Email	305	94.1
FTP	139	42.9
News	152	46.9
Telnet	120	37.0
Gopher	35	10.8
IRC	11	3.4
CU-SeeME	5	1.5
I-phone	14	4.3
Others	17	5.2
Reasons for using Internet		
Communication	250	77.2
For business or work	112	34.6
Searching for information	256	79.0
Shopping	51	15.7
Being trendy	62	19.1
Making friends	54	16.7
Sending/reading attachment files	160	49.4

Personality Attributes

The survey indicated that most internet users had a mixed locus of control with 45.3% of the test population, followed by the internal control with 29.9% and external at 24.7%. Therefore *H1* should be rejected.

Leisure Activities

Reading and learning activities were the predominant leisure activities amongst the sample followed by immobility and computing-related activities. Therefore, the original hypothesis, proposed in *H3*, that the Internet users would prefer computing-related activities should be rejected. Moreover, movement type of activities ranked the second lowest. In other words, Internet users prefer less physically intensive leisure activities.

Table 3 Types of Leisure Activities

N=324

<i>Activities</i>	<i>Mean</i>	<i>Standard Deviation</i>
Movement	2.12	0.58
Reading and Learning	3.17	0.65
Social	2.45	0.54
Art	1.61	0.68
Games and Sport	2.48	0.63
Immobility	3.06	0.57
Home Improvement	2.15	0.64
Computing Related	2.98	0.75

Relationship between Demographics and Leisure activities

Furthering the analysis, the result indicated that movement had an association with gender, level of education, occupation and income. Moreover, gender, age, marital status, level of education and income showed a significant association with reading and learning. Gender and education attributed to the association with 'social'. Gender and income attributed to the arts. An association was found between age, marital status, level of education and occupation with games and sports type of activities. Gender was the determinant to 'immobility'. Gender, level of education and marital status were associated with the choice of home-improvement. Gender, age and occupation were associated with computing-related activities.

Table 4 Oneway ANOVA Analysis for Demographics & Leisure Activities

N=324

	Movement	Reading & Learning	Social	Art	Games & Sport	Immobility	Home Improve	Computing Related
Gender	0.334	0.0002	0.0095	0.0265	0.8785	0.339	0.0099	0.0000
Age	0.6171	0.0450	0.1707	0.7112	0.0006	0.2588	0.8612	0.0024
Marital S.	0.5373	0.0011	0.0980	0.0669	0.0027	0.2430	0.0003	0.1166
Education	0.0031	0.0000	0.0004	0.3904	0.0000	0.2915	0.0200	0.2012
Occupation	0.0053	0.2450	0.0924	0.0630	0.0028	0.3985	0.2946	0.0001
Income	0.0239	0.0309	0.1684	0.0035	0.0987	0.1494	0.3785	0.1070

Note: P < 0.05

Relationship between Personality Attributes of Internet Users and Leisure Activities

The only association was found between personality attributes (internal, external and mixed locus control) with 'movement' and 'immobility'. There was no significant association between personality attributes and other types of activities.

Table 5 Analysis of Personality Attributes and Leisure Activities

	Movement	Reading & Learning	Social	Art	Games & Sport	Immobility	Home Improve	Computing Related
Personality Attributes	0.0151	0.8769	0.8281	0.5011	0.3701	0.0325	0.1429	0.1504

N=324

Note: P<0.05

Relationship between Demographics and Personality Attributes

It was found that there was a significant difference between male and female Internet users. A higher proportion of male users were categorised as belonging to the internal locus of control group compared with female users. Furthermore, Internet users who have a postgraduate degree tend to be of the internal locus of group type of personality.

Table 6 Comparison of Personality Attributes between Male and Female Internet Users

	Male	Female	Total
Internal	53 (16.4%)	44 (13.6%)	97 (29.9%)
Mixed	113 (34.9%)	34 (10.5%)	147 (45.4%)
External	39 (12.0%)	41 (12.7%)	80 (24.7%)
Total	205 (63.3%)	119 (36.7%)	324 (100%)

N=324

Note: P<0.001

Table 7 Comparison of Personality Attributes with Level of Education

	Postgrad	Under	HND	S. High	J. High	Total
Internal	27 (8.3%)	35 (10.8%)	14 (4.3%)	18 (5.6%)	3 (0.9%)	97 (29.9%)
Mixed	9 (2.8%)	78 (24.1%)	49 (15.1%)	11 (3.4%)	0 (0.0%)	147 (45.4%)
External	6 (1.9%)	46 (14.2%)	20 (6.2%)	8 (2.5%)	0 (0.0%)	80 (24.7%)
Total	42 (13.0%)	159 (49.1%)	83 (25.6%)	37 (11.4%)	3 (0.9%)	324 (100%)

N=324

Note: P<0.001

CONCLUSION

The findings of this study demonstrate a valuable insight into the relationship between different aspects of the personality attributes of Taiwanese Internet users and their leisure activities. In terms of personality attributes, the mixed locus of control represented the largest group of the sample population. It was found that the favourite leisure activities of Internet users are reading and learning, followed by 'immobility' and computing-related activities. More importantly, however, the results revealed that

the Internet users were predominantly single males aged between 21 and 30 working in information technology. The number of students included in the sample meant that the income level of the Internet users was significantly lowered.

The results of this study suggest that it is possible to segment and target the Internet users in accordance with their characteristics and personalities. Furthermore, the choices of different type of leisure activities amongst the Internet users were also influenced by demographic factors. The results also suggested that there was a significant association between personality attributes with 'movement' and 'immobility' types of activities. In contrast, other leisure activities appeared to have no significant association with different types of personality attributes.

The field of the Internet and aspects related to its users is an emerging subject which requires more research. Even though the research objectives have been achieved, the representativeness of the sample can be improved by including users from other service providers in Taiwan. The response rate was satisfactory but relatively low compared to other means of data collection. Furthermore, the result of this study also reflected the difficulties and dynamics involved in assessing aspects of personality attributes.

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