A Two-step Approach to Construct and Validate an E-lifestyle Instrument

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Abstract

A review of the literature suggests that traditional lifestyle instruments may not be adequate and sufficient for explaining and forecasting customer needs and behaviors related to information and communication technology enabled services/ products. Accordingly, this study first constructed an e-lifestyle instrument culled from literature review and panel discussion, and then took a two-step approach with the intention of maximizing the content validity to validate the constructed e-lifestyle scale. The empirical results demonstrated a valid e-lifestyle instrument comprising 39 items under seven components, and implications for understanding consumer e-lifestyles are also derived.

Keyword: e-lifestyle, e-lifestyle instrument, exploratory factor analysis

1. Introduction

Given that lifestyle is a distinctive model mirroring individual physiological, psychological, and sociological consequences, understanding the lifestyles of individuals has long been deemed quite useful in tailoring and delivering suitable services/products to specific target segments, and understanding the relations among lifestyle, consuming needs, and purchase behaviors of individuals has been considered very important for devising marketing/service strategies. Accordingly, considerable lifestyle researches have been conducted in the past three decades (Wells and Tigert, 1971; Plummer, 1974; Gutman, 1982; Mitchell, 1983; Soutar and Clarke, 1983; Kahle et al., 1986; Bowles, 1988; Kahle and Kennedy, 1989; Thompson and Kaminski, 1993; Grunet et al., 1997; Bates et al., 2001; Lin, 2003; Swinyard and Smith, 2003; Brunso et al., 2004; Brengman et al., 2005; Green et al., 2006; Hsu and Chang, 2008; Lin, 2008; Kumar and Sarkar, 2008; Yu et al., 2008; Yu and Wang, 2009).

However, with the astonishing advances in information and communication technology (ICT) as well as the rapidly growing Internet-enabled context, the way people live has been dramatically influenced and even changed since the late 1990s. Thus, traditional lifestyle instruments in the 21st century may not be always adequate and sufficient for indentifying and forecasting customer needs and purchase behaviors, particular with regard to Internet services (Swinyard and Smith, 2004) or technology products (Smith et al., 2008). As a result, this study aims to develop and validate an e-lifestyle instrument which can provide the marketers with insights of individual attitudes, interests, and values regarding ICT-enabled services/products

2. Literature Review

To achieve the research goal, concepts and theories motivating the lifestyle assessment, dominant instruments in assessing lifestyle, and related lifestyle scales close to this study are reviewed in this section.

2.1 Concepts and Theories Related to Lifestyle Assessment

The lifestyle concept originates from marketing research in the early 1960s (Lazar, 1963), with its theoretical foundation traced back to theories on human motivation (Maslow, 1943 and 1954; Lin, 2003; Yu et al., 2008) and personal constructs (Kelly, 1955; Yu and Wang, 2009). The human motivation theory asserts that motivation largely accounts for individuals engaging in particular behaviors, possibly motivated from basic needs such as food or desired objects, hobbies, goals, state of being, or ideals (Maslow, 1943; Maslow, 1954). Meanwhile, personal construction theory emphasizes human capacity and emotional experiences, asserting that individuals engage in a particular behavior due to a series of corollaries, which can be broadly grouped into those concerned with construing, personal knowledge, and social embeddedness of individual construing efforts (Kelly, 1955; Wang, 2010).

Overall, the theory of human motivation attempts to explain what influences individual behavior and what causes these influences, emphasizes less-apparent factors such as altruism or morality, and classifies motivation into intrinsic and extrinsic (Geen, 1994). Intrinsic motivation is when people engage in an activity, such as a hobby, without obvious external incentives. In contrast, extrinsic

motivation is when people engage in an activity with obvious external incentives such as reward.

At the base of the personal construction theory, individuals are seen as creatively formulating constructs about the apparent regularities of their lives, in an attempt to make them understandable and predictable. At a broader level, individuals, social groups, and whole cultures orient themselves accordingly to shared constructs such as liberals vs. conservative, which provides a basis for self-definition and social interaction. Overall, the personal construction theory attempts to explain why people behave the way they do, and recommends that communality (the social reality) and individuality (the personal reality) must be considered together to develop a fuller understanding of human behavior (Kelly, 1955).

Following the above concepts and theoretical basis, a variety of lifestyle scales were proposed. Among various lifestyle scales, AIO (activities, interests, opinions), originally presented by Wells and Tigert in 1971 (Wells and Tigert, 1971; Plummer, 1974; Bowles, 1988; Lin, 2008), and VALS (Value and Life Style), first devised by Mitchell in 1983 (Mitchell, 1983; Kahle et al., 1986; Kahle and Kennedy, 1989; Kumar and Sarkar, 2008) are two widely used and noted lifestyle instruments.

2.2 Prevailing Instruments in Assessing Lifestyle

AIO

During the past decades, AIO is the most prevailing instrument used to assess individual personality and private lives. In an original AIO study profiling individual lifestyles, Wells and Tigert (1971) defined activities as actual observable behaviors, interests as the continuous paying of attention to certain objects, and opinions as responses to specific events. Wells and Tigert (1971) also found AIO to be useful in differentiating light and heavy product users. As noted by Anschuets (1997), marketing efforts should concentrate on the 20% of regular consumers who generate 80% of the business of a firm. Customer relationship management (CRM) holds that this information is particularly important to businesses owing to the 80-20 Rule (Lin, 2003). The current widely used AIO instrument consisting of three hundred rating statements is developed by Plummer, who expanded the original three-dimensional AIO instrument into a four dimensional AIO instrument, as shown in Table 1.

Table 1 Plummer's AIO assessing Lifestyle

Activities	Interests	Opinions	Demographics
Work	Family	Themselves	Age
Hobbies	Home	Social	Education
Social events	Job	issues	Income
Vocation	Community	Politics	Occupation
Entertainment	Recreation	Business	Family size
Club	Fashion	Economics	Dwelling
membership	Food	Education	Geography
Community	Media	Production	City size
Shopping	Achievements	Future	Stage in life
Sports		Culture	cycle

Source: Plummer (1974)

VALS and VALS 2

In a study assessing the values and lives of Americans and how those values and lives affect individual beliefs and actions, Mitchell and Spengler at the Stanford Research Institute proposed VALS (Mitchell, 1983). The VALS instrument comprises 800 questions covering background information (i.e., demographics), personal life (i.e., financial issues, habits and activities), and perceived value (i.e., attitudes and beliefs). Mitchell (1994) contended that individual behavior is determined by a mixture of personal life and perceived value, and perceived values is a synthesis of individual attitudes, beliefs, hopes, prejudices, and demands. Therefore, except for activities, interests, and opinions, Mitchell added value as the fourth construct to assess individual lifestyle.

In January 1989, the Stanford Research Institute introduced a new VALS instrument named VALS2 (Riche, 1989), which comprised only 400 questions reduced from 800 in VALS. The original VALS instrument was based on social values, and at that time VALS was an acronym for Values and Lifestyles. In contrast, the VALS2 instrument is based on psychological traits instead of social values and is available on http://www.sric-bi.com/VALS/help.shtml. Unlike conventionally adopted demographic segmentations and other marketing tools, VALS 2 highlights measuring the psychological drivers of consumer behavior (Lin, 2003). VALS 2 contends that Thinkers and Believers are primarily motivated by ideals, Achievers and Strivers are primarily motivated by achievement, and Experiencers and Makers are primarily motivated by self-expression.

Currently, an extensively adopted VALS2 questionnaire is available on the official website of the Stanford Research Institute. This questionnaire comprises 35 psychographic questions and four demographic questions, as listed in Table 2.

Table 2 Online VALS2 questions assessing Lifestyle

1. I am often interested in theories.	22. I like to lead others.
2. I like outrageous people and things.	23. I like a lot of exciteme in my life.
3. I like a lot of variety in my life.	24. I must admit that my interests are somewhat narrow and limited.
4. I love to make things I can use everyday.	25. I like making things of wood, metal, or other such material.
5. I follow the latest trends and fashions.	26. I want to be considered fashionable.
6. Just as the Bible says, the world literally was created in six days.	27. A woman's life is fulfilled only if she can provide a happy home for her family.
7. I like being in charge of a group.	28. I like the challenge of doing something I have never done before.
8. I like to learn about art, culture, and history.	29. I like to learn about things even if they may never be of any use to me.
9. I often crave excitement.	30. I like to make things with my hands.
10. I am really interested only in a few things.	31. I am always looking for a thrill.
11. I would rather make something than buy it.	32. I like doing things that are new and different.
12. I dress more fashionably than most people.	33. I like to look through hardware or automotive stores.
13. The federal government should encourage prayers in public schools.	34. I would like to understand more about how the universe works.
14. I have more ability than most people.	35. I like my life to be pretty much the same from week to week.
15. I consider myself an intellectual.	36. Sex
16. I must admit that I like to show off.	37. Age
17. I like trying new things.	38. the highest formal education
18. I am very interested in how mechanical things, such as engines, work.	39. Total household income before taxes for the past calendar year
19. I like to dress in the latest fashions.	
20. There is too much sex on television today.	
21. I would like to spend a year or more in a foreign country.	

Source: http://www.sric-bi.com/VALS/presurvey. shtml (access in September 2010)

2.3 Related Scale close to this study

After extensively reviewing related literature, the individual lifestyle can basically be identified by profiling his/her activities, interests, opinions, and

values. Since the marketers enhance their abilities to communicate with and market to customers by knowing customers' lifestyle patterns (Lazer, 1964; Plummer, 1974; Wells, 1974), a lifestyle instrument is not always suitable to different life domains and should be restricted to certain life domains (Van Raaij and Verhallen, 1994; Chen, 2009). That is, no single set lifestyle instruments can fit the intricacies of every market, product, and service (Bowles, 1988). Following the literature review, this work found only little literature (Swinyard and Smith, 2003; Brengman et al., 2005; Chen, 2006; Chian, 2006; Yu et al., 2008; Yu and Wang, 2009; Wang, 2010) assessed respondents' ICT-related lifestyle. Accordingly, these few studies were referred and used in this study to help construct items assessing e-activities, e-interests, e-opinions, and e-values.

3. Methodology

A review of the literature suggests that individual lifestyle can be assessed by four constructs of activities, interests, pinions, and values, and items used to assess these constructs can be culled from related studies. Therefore, this work first operationalizes e-activities, e-interests, e-pinions, and e-values from the theories and concepts which motivate the lifestyle assessment. Thereafter, items used to assess e-activities, e-interests, e-pinions, and e-values are culled from related literature. Finally, the constructed e-lifestyle scale consisting of four constructs, named e-activities, e-interests, e-pinions, and e-values, is reviewed and reworded by the panel discussion and pre-testing. The sampling methods are also presented in this section.

3.1 Scale Construction

Following the previous literature review, it is clear that the theoretical basis of lifestyle instrument can be traced back to the theory of human motivation (Maslow, 1943; Maslow, 1954; Lin, 2003) and the theory of personal constructs (Kelly, 1955; Wang, 2010). By extensively reviewing the adoption and usage of ICT-enabled products/services, this study further noticed that Ajzen and Fishbein's theory of reasoned action (TRA) (Fishbein and Ajzen, 1975), Davis's technology acceptance model (TAM) (Davis, 1989), and Ajzen's theory of planned behavior (TPB) (Ajzen, 1991) were three widely used theoretical bases for explaining/predicting why individuals adopt/use information and communication technology-based products/ services.

Accordingly, by summarizing the theory of human motivation, the theory of personal constructs, TRA,

TAM, and TPB, the e-lifestyle can be operationalized as "a way of e-life for a particular group of people, which reflects their e-values, e-interests, e-opinions, and daily e-activities in the context of Internet". In line of this thinking, the e-activities is operationalized as "actual observable behaviors in the Internet context", e-interests is operationalized as "the continuous paying of attention to the matters of Internet", e-opinions is operationalized as "responses to specific events of Internet", and e-values is operationalized as "believes and guidelines about Internet".

In the initial version, 15 items used to measure e-activities, 15 items used to measure e-interests, 15 items used to measure e-opinions, and 15 items used to measure e-values are constructed. As suggested by past studies (Well and Tigert, 1971; Wells, 1974; Lin, 2003), good lifestyle items might result from not only pertinent literature but also in-depth interviews with professional's comments, particularly when direct empirical research is absent or limited (Ahmed et al., 2010). Consequently, a panel discussion was conducted by inviting two academics and two practitioners to review and reword the initially constructed e-lifestyle scale. Following the panel discussion's consensus, items deemed redundant were removed, items deemed similar were combined, items deemed too lengthy were simplified, and items were rewording if the statement was not clearly written and easy to be understood. As a result, the initial 60 items was reduced to 52 items and necessary adjustments were made based upon the comments from the panel discussion.

Thereafter, a pre-testing with 18 respondents was performed to check the wording, completeness, sequencing, and other possible errors in the questionnaire. Following the respondents' feedback, the questionnaire was slightly re-edited to strength the clarity and completeness. As a result, the formal questionnaire was organized into two sections and comprised 60 questions. The first section contained 52 questions used to assess individual e-lifestyle as shown in Table 3, while the second section involved eight questions used to collect basic respondent information. All questions

in the first sections were measured using a five-point Likert scale, ranging from "strongly disagree" to "strongly agree".

Table 3 Items used to assess four constructs

Constructs	Items
e-activities	1. I frequently do my job via ICT-er services/products. 2. I frequently play game or listen music via enabled services/products. ⋮ 13. I am the community members of many enabled services/products.
e-interests	14. I frequently use ICT-enabled services/produ home. 15. I frequently use ICT-enabled services/produc vocation. ⋮ 26. I like to learn the knowledge regarding ICT-er services/products
e-opinions	27. ICT-enabled services/products are very importa our society. 28. ICT-enabled services/products have ne influence on our society. ⋮ 39. I like the challenge brought by ICT-er services/products.
e-values	40. ICT-enabled services/products can greatly my life convenient 41. ICT-enabled services/products can g improve my Job efficiency. ⋮ 52. The leisure environment has benefited a lot from continued development on ICT.

3.2 Sampling and data collection

After considering effectiveness and feasibility in terms of time, manpower, and other resources, online sampling was performed. The advantages of online surveys over paper-based mail surveys have been discussed in some research (Tan and Teo, 2000; Bhattacherjee, 2001a and 2001b), and particularly considered as an appropriate approach for ICT-related studies (Yu and Wang, 2009). Accordingly, 878 online questionnaires were gathered during a two-month online field survey. After discarding invalid and incomplete questionnaires, this study collected 761 valid responses.

Table 4 The profile of samples

Category		Number of Respondents	Percentage
Gender	Male	379	49.8%
	Female	382	50.2%
Age	Less than 20-year-old	45	5.9%
	20-24 years old	449	59.0%

	25-29 years old	229	30.0%
	30-34 years old	25	3.3%
	35-39 years old	9	1.2%
	40-44 years old	2	0.3%
	above 45 years old	2	0.3%
Occupation	Technology Manufacturing	51	6.7%
	Non-Tech Manufacturing	22	2.9%
	Bank/Finance/Insurance	18	2.4%
	Media/Communication	16	2.1%
	Retail/Distribution	21	2.8%
	Restate	5	0.7%
	Medical/Hospital/Bio	25	3.3%
	Education	27	3.5%
	Military	7	0.9%
	Student	426	56.0%
	Government	17	2.2%
	SOHO	70	9.2%
	House Keeper	7	0.9%
	Others	24	3.1%
Education	Below Senior High	3	0.4%
	Senior High Diploma	26	3.4%
	Associate Bachelor Degree	20	2.6%
	Bachelor Degree	498	65.4%
	Master Degree	205	27.0%
	Ph.D. Degree	9	1.2%
Monthly Income	Less than NT$ 15,000	468	61.5%
	NT$ 15,000 - 24,999	97	12.7%
	NT$ 25,000 - 34,999	105	13.8%
	NT$ 35,000 - 44,999	57	7.5%
	NT$ 45,000 - 54,999	23	3%
	NT$ 55,000 - 64,999	8	1.1%
	Over NT$ 65,000	3	0.4%

Table 4 displays the profile of the valid responses. As shown in Table 2, 382 (50.2% of the 761 valid samples) were from female while 379 (49.8%) were from male. Of the total online respondents, 5.9% were aged below 20 years old, 59% were 20-24 years old, 30% were 25-29 years old, 3.3% were 30-34 years old, 35-39% were 35-40 years old, and 0.6% were above 40 years old. Around 93.6% of respondents had a bachelor degree or higher, 56% were students, and 88% had average monthly incomes below NT$ 35,000.

4. Instrument Validation

A two-step approach was adopted to examine the validation of the constructed e-lifestyle instrument. First, based on the assumption that the exact number of dimensions underlying a set of data is unknown, an exploratory factor analysis (EFA) using the principle components method with varimax rotation was performed to determine the number of dimensions underlying the 52 item e-lifestyle scale. EFA offers the following two advantages: (1) each component extracted from the data set accounts for the maximum amount of variance among the set of variables being studied (Gorsuch, 1983); (2) EFA assumes that all the variance underlying the data set is relevant to each other, and seeks an optimal solution that best explains the relationships among dataset items. However, this study observed that EFA has been criticized as an internally driven analysis method with few criteria for evaluating its results. Hence, the second step in this work is to replicate the analysis using a comparable, independent sample of the same population to examine the validation of an

EFA solution.

Accordingly, following the two-step approach, the collected samples were randomly divided into two independent samples using SPSS Random Selection. Sample 1 (n=381) was used as the development sample and Sample 2 (n=380) was used as the replication sample. For each sample, an identical series of analysis steps were independently executed and compared. Comparing the two EFA solutions helps to determine the adequacy of the generated dimensions underlying the responses.

Table 5 lists the loading values and percentages variance accounted for by each of the generated components (or called dimensions). This study employs four criteria to evaluate the EFA principal component solutions. First, percentage variances explained by each individual component and the overall set of components were assessed. That is, the variance accounted for by each component is employed to determine whether the component contributes significantly to the solution. The second evaluative criterion was the occurrence of simple structure. Simple structure means that each item should be associates with a single component. Items that have strong relationships with more than one component are termed cross-loading items. Cross-loading item may cause problems when interpreting the EFA solution. That is, items were considered component markers if their loading value was greater than 0.50. In contrast, lower item-to-component correlations were determined if items were not closely associated with other components. Third, the solution was evaluated for the absence of specific components. Specific components are dimensions consisting of just one item, which is frequently considered as an indication that the data set has been over factored (Gorsuch, 1983; Green et al., 2006). Finally, the solution was judged on its interpretability. This criterion is arguably the most important, because for the solution to be useful it must be substantively important based on researcher knowledge of the content area.

Table 5 The generated loading values and variance under each component

	Factor Loadings	Eigenvalue	Percentage of variance accounted by each factor	Cronbach alpha values
Factor 1:				
Q01	0.823 (0.856)			
Q40	0.815 (0.822)			
Q41	0.812 (0.765)			
Q14	0.798 (0.698)	7.726	19.316%	0.763
Q16	0.756 (0.649)	(6.915)	(17.288%)	(0.831)
Q03	0.723 (0.715)			
Q05	0.712 (0.722)			
Q50	0.665 (0.617)			
Q51	0.615 (0.649)			
	0.611 (0.633)			
Factor 2:				
Q17	0.865 (0.892)			
Q18	0.864 (0.877)			
Q21	0.829 (0.801)	4.043	10.112%	0.772
Q36	0.817 (0.815)	(4.357)	(10.940%)	(0.820)
Q26	0.811 (0.836)			
Q24	0.686 (0.712)			
Factor 3:				
Q02	0.798 (0.812)			
Q04	0.739 (0.754)	3.988	9.973%	0.782
Q10	0.720 (0.803)	(4.273)	(10.728%)	(0.853)
Q35	0.682 (0.793)			
Q52	0.672 (0.712)			
Factor 4:				
Q06	0.873(0.886)			
Q07	0.860(0.824)	3.130	7.828%	0.869
Q43	0.778(0.847)	(3.181)	(7.998%)	(0.839)
Q42	0.758(0.734)			
Q12	0.741(0.816)			
Factor 5:		2.762	6.909%	0.741
Q38	0.828(0.877)	(3.357)	(7.313%)	(0.763)

Q33	0.812(0.869)			
Q25	0.799(0.813)			
Q27	0.767(0.762)			
Q31	0.621(0.788)			
Factor 6:				
Q49	0.813(0.787)			
Q48	0.755 (0.748)	1.967	4.915%	0.728
Q28	0.733(0.706)	(2.047)	(5.117%)	(0.745)
Q45	0.729(0.765)			
Q32	0.717(0.764)			
Factor 7:				
Q20	0.857(0.844)			
Q19	0.745(0.810)	1.515	4.136%	0.801
Q39	0.737(0.865)	(1.683)	(4.209%)	(0.803)
Q37	0.687(0.753)			

Notes: Replication sample loadings, eigenvalues, percentage of variance accounted by each factor, and Cronbach alpha values are provided in parenthesis.

After executing EFA, the eleven dimensions were generated. After discarding the four low-reliable dimensions and 13 un-valid items, only seven dimensions with 39 items were displayed in Table 5. The EFA solution shows that the seven-component solution can explain 62.84% of the variance across the 381 observations in the development sample data. For the replication sample, an identical series of analysis steps were independently executed and the generated solution was provided in parenthesis in Table 5. Compared to two EFA solutions, the results suggested that the 39-item seven-component solution can be deemed the optimal solution across the four criteria. The seven-component solution comprised 62.95% of the variance in the replication sample, and provided a simple structure involving no cross-loading items with strong relationships with multiple components. The computed Cronbach alpha values ranging from 0.745 to 0.853 indicate all components are reliable.

5. Discussion and Conclusions

Following up on the above, the original 52 items were selected according to four constructs, namely e-activities, e-interests, e-opinions, and e-values, to represent multiple facets of individual e-lifestyle. After taking a two-step approach (using EFA to examine 52 items at the first step and examining the first step's EFA-solution at the second step), with the intention of maximizing the content validity, the empirical results demonstrated a valid and durable e-lifestyle instrument comprising 39-items under seven components. According to the content analysis for nine components, the first component (C1) can be labeled as "e-lifestyle driven by self-needs in work and life". Following, C2 is labeled as "e-lifestyle driven by self-interest", C3 is labeled as "e-lifestyle driven by self-entertainment", C4 is labeled as "e-lifestyle driven by personal link", C5 is labeled as "e-lifestyle driven by knowing the importance of

ICT", C6 is labeled as "e-lifestyle uninterested (apathetic) by against ICT", and C7 is labeled as "e-lifestyle driven by inborn novelty".

According to seven descriptive labels, each of these seven labels aimed to capture the main focus of the items under each component and interpret relationships among the different components which portray people's e-lifestyle. For example, the C2 "e-lifestyle driven by self-interest" reflects individuals who were motivated to use Internet due to having interests on ICT-enable services/products. The C4 "e-lifestyle driven by personal link" indicates individuals motivated to use Internet-enabled services/products primarily driven by their needs contacting people. C3 "e-lifestyle driven by self-entertainment" expresses individuals who often use Internet-enabled services/products mainly due to watching sport/movies, listening music, playing online games, and the like.

Notably, since the influences of seven components on shaping e-lifestyle are different, it is worthwhile to further analyze the EFA solution and perform drill-down analysis when interpreting the lifestyles of respondents. For example, the component of C1, e-lifestyle driven by self-needs in work and life, reveals that individuals frequently using ICT-enabled services/products are attributed to their work environment and job needs. That is, their job is strongly related to the ICT and/or their work environment is surrounded by the ICT, which forces them to employ ICT every day and motivates them to keep alert in learning new knowledge about ICT, else become losers in their working environment. As a result, C5 "e-lifestyle driven by knowing the importance of ICT" and C1 might be possibly joined together to explain/ predict the causes of individual e-lifestyles and the interactions among types of individual e-lifestyles. The C7, e-lifestyle driven by inborn novelty, may depict why some individuals are

late users on ICT-enabled services/products, since certain individuals are early majority of using ICT-enabled services/products. Later majority uses ICT-enabled services/products mainly because most of others use them, while early majority uses ICT-enabled services/products heavily due to personal interest and/or innovativeness. Meanwhile, some individuals dislike ICT-enabled services/ products, simply because they are concerned about the potential social problems brought by ICT-enabled services/products.

During the recent decades, AIO, VALS, and their variants (i.e., VALS 2) have been applied in various marketing/business studies. However, with the astonishing advances on Internet and information & communication technology, recently some researchers and practitioners such as Mary Modahl (Vice President, Forrester Research) and Yi Yu Chian (CEO, InsightXplorer) have argued that traditional lifestyle measurements, such as AIO and VALS, are not suitable for assessing individual lifestyle in the 21st century (Chiang, 2006; Yu et al., 2008; Yu and Wang, 2009; Wang, 2010). Accordingly, empirical studies on construction and validation of the e-lifestyle instrument are pressingly needed. As shown by the results, this study employed a two-step approach to examine 52-item e-lifestyle instrument, generated seven distinct dimensions with 39 items, and demonstrated the validity of the constructed 39-item e-lifestyle instrument. Since lifestyle instrument is the cornerstone of successfully assessing individual lifestyles and since prevailing lifestyle instruments focus closely on general lifestyle, this work may represent a step towards achieving the goal of profiling consumers involved in marketing ICT-enabled services/products.

As usual, limitations always exist in every study for future improvements. First, looking at Table 4, the most of respondents are below 30 year-old and approximate 56% of respondents are students. Therefore, the future study may sample respondents based on the real profile of the population in Taiwan. Second, the more empirical research to be conducted in different cultures/countries is required to re-examine and generalize the constructed e-lifestyle instrument. Third, the respondents may need to be classified into distinct groups. By analyzing characteristics within specific group, cluster analysis has been widely employed to segment the market and find opportunities for new product development during the last decades (Punj and Stewart, 1983; Kaye-Blake et al., 2007). Thus, the further study may profile respondents via a two-stage cluster analysis. The first stage is to find the optimal number of clusters, while the second stage is to cluster respondents into groups.

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