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Lifestyles and the use of new media technology in urban China[1]

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Research in adoption of new media technologies for social identity and its relationship to lifestyle has received little attention. The purpose of this study is to link consumers' lifestyle orientation and media use to the adoption behavior of new media technologies in urban China. Key findings indicate that (1) lifestyles significantly affect innovativeness; (2) the upscale socioeconomic profile of earlier adopters was consistent with early research; and (3) adoption of certain new media technologies appeared to project certain social identities such as 'life expansionists', 'sophisticated and fashionable', and 'pleasurable and enjoyable'. The results have important implications for marketing managers and media planners. © 1998 Elsevier Science Ltd. All rights reserved.

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Urban cities such as Beijing, Shanghai, and Guangzhou, where telecommunications are most advanced, are experiencing a great demand for new media especially in the form of information and entertainment. As in most developed countries, the rising real incomes and the abundance of consumer goods in China have spurred much demand for new consumer media electronics especially the newest items such as pagers, cellular phones, laserdisc players, video games, walkmans, discmans, and camcorders. In recent years, China has become one of the economic powerhouses in Asia with nearly double-digit growth in GNP from 1978 to 1992.[2] The pace of new media penetration is undoubtedly attributable to the economic and social forces. However, little research has addressed the adoption of new media technologies in China.

Previous research on new media technologies has considered a variety of perspectives and analytic levels to study emerging new topics in the behavioral dimensions of technology adoption and use. Most research focused on external factors such as socioeconomic and demographics, which portrayed an upscale profile for early adopters. However, demographic targeting offered little insight into the internal needs of adopters. Motivating, attitudinal and lifestyle factors have been much ignored or understudied. Moreover, the existing body of research on technology adoption and use also cannot be relied upon as much of it was limited to investigations applicable and tested mostly in developed countries such as the United States. Therefore, this study will break new research ground in the study of the adoption of new media technologies in urban China.

Review of the literature

In consumer research, it has been asserted that early adoption behavior demonstrated that diffusion of new products is motivated by the pursuit of

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[2] *Almanc of China's Economy.* The Economy and Management Press, Beijing, (1993); p. 697.

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[6] Rogers, E. M., *Communication Technology: The New Media in Society.* The Free Press, New York, 1986.

[7] Simmel, G., *The Sociology of Georg Simmel,* ed. K. Wolff. Free Press, New York; 1950.

[8] Rosenberg, M., *Conceiving the Self.* Basic, New York, 1979.

[9] Levy, S. J., Symbols for sale. *Harvard Business Review,* 1959, **37** 117–124; McCracken, G., Culture and consumption: a theoretical account of the structure and movement of the cultural meaning of consumer goods. *Journal of Consumer Research,* 1986, **13**, 71–84.

[10] Blumer, H. Fashion from class differentiation to collective selection. *Sociology Quarterly,* 1969, **10**, 275–291; Summers, J. O., The identity of women's clothing fashion opinion leaders. *Journal of Marketing Research,* 1970, **7**, 178–185; Holman, R. H., Product use as communication: a fresh appraisal of a venerable topic. In *Review of Marketing,* eds. B. M. Enis and K. J. Roering. American Marketing Association, Chicago, 1981, pp. 250–272.

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[12] Douglas, M. and Isherwood, B., *The World of Goods.* Basic, New York, 1979.

[13] Levy, *opcit* Ref. 9; Sahlins, M., *Culture and Practical Reason.* University of Chicago Press, Chicago, 1976; Douglas

social rewards.[3] People seek out new products as a means of establishing and communicating social differentiation and identity. The products people buy and use are a marker of their lifestyles. The adoption of such consumption objects implicitly reflects the interdependent roles of *lifestyles* and the *consumption* objects to classify. And the adoption of the product is an implied endorsement that positions the new product as a symbol of group affiliation. Past studies have developed relationships between particular brands or products consumed and lifestyle.[4] Furthermore, Levy demonstrated that the total assortment of goods and services used by consumers is a mirror image of lifestyles.[5] Thus, knowing something about lifestyles and their relationship to consumption objects for social identity would help predict product use.

Consumption as integration and classification

Diffusion research indicated that higher-status individuals are especially likely to adopt the new media which are seen as status symbols.[6] Research on consumption-as-integration and as-classification has also focused on how consumers manipulate object meanings to fit their *social identity*. Simmel proposed consuming (e.g. the adoption of new media technologies in this study) as a type of social action in which people make use of consumption objects in a variety of ways.[7] Rosenberg described the consuming-as-integration metaphor as methods used by consumers to enhance the perception that a valued consumption object is an essential element of their identity.[8] Each consumption object has its symbolic property. In other words, consuming-as-integration is an instrumental act pursued by consumers to facilitate the symbolic use of the object. The consuming-as-classification metaphor, on the other hand, refers to the ways in which consumers use consumption objects to classify themselves in relation to relevant others when they use the shared meanings associated with a consumption object to classify themselves or others.[9] By signifying properties of consumption objects, past studies have examined highly visual goods such as fashions, food, automobiles, housing, or a sports activity.[10] These studies tend to assume that classification is a mundane process of displaying one's possession to others.[11] Classifying practices serve both to build affiliation and to enhance distinction.[12]

Consumption and lifestyles

The importance of consumption for social identity has been richly documented in previous research;[13] however, consumption of new media technologies for social identity and its relationship to *lifestyle* has received far less attention. Lifestyles are classified in order to enhance the development of social identity through their activities, interests and opinions (A.I.O.). According to Cosmas, *activities* refer to consumption behavior such as where to meet people, places to go, and lifestyles of just 'being on the go'; *interests* emphasize fashion, food, money, and job; and *opinion* items concern products and brand preferences.[14] Cosmas studied the links between consumption patterns and *lifestyles* where A.I.O. inventories were used to highlight the differences between patterns.[15] Seven lifestyle groups were identified: traditionalists, frustrated, life expansionists, mobiles, sophisticates, actives, and immediate gratifiers. Past studies

in consumer behavior models, such as that of Engel et al.,[16] also showed consumption styles being influenced by A.I.O.

This paper seeks to extend current empirical knowledge of A.I.O. factors and to examine how it may influence the consumption of new media technologies in urban China. The main objective is to examine the effects of demographics, lifestyles, and media use on innovativeness (overall use of information technologies) and on specific media technology adoption behavior. Lifestyles are assumed to mediate the effects of advertising and other marketing strategy variables on consumers' adoption patterns. Based on these conceptual dimensions of consumption as mechanism for social identity, this study asks:

RQ1: What lifestyle indices similar to A.I.O. inventories can be identified in urban China?

RQ2: To what extent can demographics, lifestyle and media use predict innovativeness in media technology adoption in urban China?

RQ3: What is the relative influence of demographics, lifestyle, and media use on the adoption of karaoke bars, video stores, personal computers, VCR, cable TV, pagers, and cellular phones in urban China?

Method

Sample and sampling procedure

The data for this study were based on three parallel consumer surveys conducted in three metropolitan areas in China in 1995: Beijing, Shanghai, and Guangzhou. The surveys relied on three separate random samples, one for each city, using multi-stage stratified cluster sampling techniques. This means that city districts were drawn at the first stage, followed by residential communities and then households. Members of households to be interviewed were randomly selected at the final stage. Targeted samples from Beijing, Shanghai, and Guangzhou were comparable in size and composition. A total of 2953 questionnaires were completed. For more details regarding sampling and data collection of this study, refer to IMI Consumer Surveys.[17] The composition of the sample was almost evenly distributed from the three cities with 34% from Beijing, 33.8% from Shanghai, and 32.2% from Guangzhou. The sample closely reflected the socioeconomic and demographic characteristics of metropolitan China consisting of 52.7% males and 47.3% females, ranging in age from 12 to 60 ($M = 34.5$, $SD = 12.15$).

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and Isherwood, *opcit* Ref. 12; McCracken, *opcit* Ref. 9.

[14] Cosmas, S. C., The advantages and disadvantages of the profile approach to analyzing life style data. *Advances in Consumer Research*, 1975, **3**, 501–503.

[15] Cosmas, S. C., Life styles and consumption patterns. *Journal of Consumer Research*, 1982, **8**, 453–455.

[16] Engel, J. F., Blackwell, R. D. and Kollat, D. T., *Consumer Behavior*, 3rd ed, Dryden Press, 1978.

[17] IMI Consumer Surveys 1995 in Beijing, Shanghai & Guangzhou. China Finance and Economy Press, Beijing, 1996.

Assessing the use of information technologies

Respondents were asked if they owned or subscribed to a number of household electronics and media services such as answering machines, black and white TV, color TV, cable TV, camcorders, cameras, cellular phones, CD-players, personal computers, discmans, electronic dictionaries, hi-fis (stereos), laserdisc players, pagers, VCRs, video games, and walkmans. Results were coded '1' if they had the technologies at home and '0' if they did not. In addition, respondents were also asked if they had engaged in a number of media-related activities in the last three months: going to cinemas, visiting bookstores, karaoke bars, libraries, photo processing stores, and video stores. It was coded '3' if they had visited more

than three times; '2' if they visited two to three times; '1' if they visited once; and '0' if they had not.

Measuring innovativeness

Diffusion Theory suggests that adoption of technological innovations is a function of one's innovativeness, or willingness to try new products.[18] Rogers describes innovativeness as the degree to which an individual is relatively earlier in adopting new ideas or innovations than other members of a society. To operationalize innovativeness, the overall adoption of seven selected information technologies (coded '1') were summed into a continuum of innovativeness index. The seven technologies included two new widely adopted media in urban China: VCRs (61% penetration) and cable TV (56.9%); three newer media: pagers (37.1%), personal computers (9.6%), and cellular phones (3.6%); and two media-related activities with the least frequency: visiting karaoke bars (19%) and video stores (18.3%). As the variables for visiting karaoke bars and video stores were ordinal scale, they were recoded with '0' meaning they had never visited and '1' meaning they had visited these media related activities at least once in the past 3 months. As a result, innovativeness index ranged from '0', meaning respondents were traditional and less innovative, to a '7' meaning they were venturesome and highly innovative.

Measuring lifestyles in urban China

Using activity, interest, and opinion as indicators of lifestyle orientations, the 1995 IMI Consumer Surveys adapted a combination of items from the US—'A.I.O.' inventories[19] and the 'COFREMCA' or C.C.A. inventories used in France.[20] Similar to A.I.O., this study measured *activities* which included consumption behavior items such as where to meet people, how to better oneself, and challenging places to go. The *interest* items included fashion, food, money, and job. The *opinion* items concerned products and brand preferences. The COFREMCA was selected because of its conceptual framework and its widespread use in France. Performed every year and used to detect changes and new sociocultural trends, COFREMCA deals more with motivations, needs and aspirations (Genzel, 1983).[21] This study used a total of 52 items contained in the 1995 IMI Consumer Surveys Questionnaire measured on a 5-point Likert Scale where '1' means strongly disagree with the statement and '5' means strongly agree. Twenty-three items survived an initial factor analysis. Items that were found ambiguous were eliminated. As the questionnaires were written in Chinese, care was taken to avoid translation and interpretation bias.

Measuring media use

Media use was measured in the three traditional mass media: newspapers, magazines, and television. Newspaper exposure was measured by asking respondents to state the number of days in a week they would read each of the five most popular newspapers in the country. Initially, respondents were given 42 newspapers and asked to state the number of days they would read each paper. The five most read newspapers were selected and were summed into a final indicator for newspaper exposure in subsequent analysis. Value ranged from 1 to 35. Respondents who did not read any of the five top newspapers were dropped from further analysis. Similarly, the top five most read magazines were used to assess magazine exposure.

[18] Rogers, E. M., *Diffusion of Innovations,* 4th ed. The Free Press, New York, 1983.
[19] Cosmas, *opcit* Ref 15; Plummer, J. T., Applications of life style research to the creation of advertising campaigns'. In ed. *Life Style and Psychographics,* W. D. Wells American Marketing Association, Chicago, 1974, pp. 157–69.
[20] Wells, W. D., Life style and psychographics: definitions, uses and problems, In *Life Style and Psychographics,* ed. W. D. Wells. American Marketing Association, Chicago, 1974, pp. 315–63.
[21] Genzel, D., De la Publicite a la Communication. Rochevignes, 1983.

Results were coded '5' if respondents read every issue, and '1' if they never read these magazines. Again, responses were summed from these five popular magazines and the results ranged from 1 to 25. Use of television was measured by asking respondents to check if they watched television during the prime time hours from 7 p.m. to 10 p.m. on an average weekday, an average Saturday, and an average Sunday. Measures ranged from '0,' meaning they did not watch television at all, to '9,' meaning they watched very often during prime time.

Results

RQ1: What lifestyles indices similar to A.I.O. inventories can be identified in urban China?

To identify the lifestyle indexes in urban China, principal components factor analysis was performed to determine the potential groupings of lifestyle items across respondents from the IMI Consumer Surveys data in 1995. Table 1 shows the underlying structure of lifestyles and the results

Table 1. Factor loadings (principal components, varimax rotation) of 23 lifestyle indicators.

	Factors				
	1	2	3	4	5
Sophisticated and fashionable					
I am fashionable in the eyes of others	**0.68**	− 0.01	− 0.15	0.02	0.09
I enjoy having new & fashionable things	**0.63**	0.06	− 0.07	0.18	0.13
I pay attention to trends in fashion	**0.61**	0.03	0.05	0.01	0.04
A fancy and distinctive living attracts me	**0.61**	0.06	0.17	0.03	− 0.11
I dress up to show off my personality	**0.61**	0.06	− 0.00	− 0.01	0.15
I enjoy a romantic lifestyle	**0.56**	0.19	0.08	0.13	− 0.07
I often eat at McDonalds	**0.50**	− 0.03	− 0.01	0.05	0.05
I enjoy stylistic dresses	**0.46**	0.15	0.14	0.01	− 0.07
Life expansionists					
Life is meant to take on challenges and risk	0.19	**0.63**	0.04	− 0.02	− 0.12
I will take some courses to brighten my future	0.06	**0.62**	0.06	− 0.03	0.02
I like to learn more new knowledge and technology	0.05	**0.62**	0.15	− 0.06	0.01
Doing nothing will make me feel uncomfortable	− 0.11	**0.61**	− 0.00	0.06	0.08
I have high hopes on what I can accomplish	0.19	**0.50**	0.10	0.08	− 0.03
Pleasure and enjoyable life					
I prefer to do nothing but relax during holidays	0.14	0.00	**0.61**	0.12	0.03
I will be happy if I can live leisurely	0.05	0.08	**0.60**	0.01	0.14
I prefer stable and secure jobs	− 0.19	− 0.05	**0.55**	− 0.11	0.07
A living space of my own will make me happy	0.02	0.14	**0.55**	− 0.04	− 0.15
A house by the lake or up the hill is perfect for vacation	0.10	0.20	**0.50**	0.02	− 0.07
Preference for foreign products					
Although expensive, I prefer foreign products	0.16	0.03	0.02	**0.86**	− 0.02
Foreign products give me more satisfaction	0.10	− 0.01	− 0.02	**0.86**	0.09
Credibility of mass media					
Advertising can be trusted	0.20	0.06	− 0.10	− 0.03	**0.71**
I trust what is reported in the newspaper	− 0.09	− 0.05	− 0.02	− 0.01	**0.64**
Advertised products are more trustworthy	0.10	− 0.01	0.17	0.12	**0.60**
Eigenvalue	3.5	2.1	1.5	1.4	1.3
Variance explained	15.2%	9.1%	6.4%	5.9%	5.6%
Cronbach's alpha	0.74	0.58	0.72	0.51	0.41

Notes:
1 The scale used: 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree. (N = 2,012).
2 Factor 1 marked the *interest* dimension of the A.I.O. measures which describes respondents themselves as sophisticated, fashionable, romantic, and stylish.
3 Factor 2 reflects the *activity* dimension of A.I.O.—having desires to gain new information and knowledge, taking on challenges and risks, and having high hopes and confidence.
4 Factor 3 reflects the *value* dimension of lifestyle as recorded in the COFREMCA inventories which indicated the desire for a relaxed, stable, secure, and leisurely lifestyle such as living by the lake or up the hill.
5 Factor 4 reflects respondents' *interest* and *opinion* towards foreign products—an additional index not included in the original A.I.O. and COFREMCA lifestyle indicators.
6 Factor 5 describes respondents' *attitudes* and *values* towards mass media, especially the trustworthiness of newspaper and advertising in general—similar to what COFREMCA.

were similar to the ones found in the A.I.O. and COFREMCA inventories.[22] Five factors emerged with eigenvalues greater than 1.0, explaining 42.2% of the total variance. The first factor, 'sophisticates and fashionable', had an eigenvalue of 3.5 and explained 15.2% of the variance. It consisted of eight items that marked the *interest* dimension of the A.I.O. measures. This index describes respondents themselves as sophisticated, fashionable, romantic, and stylish. The second factor, 'life expansionists' (eigenvalue = 2.1, 9.1% of variance), was composed of five items that reflect the *activity* dimension of A.I.O.—having desires to gain new information and knowledge, taking on challenges and risks, and having high hopes and confidence. 'Pleasure and enjoyable life' was the third factor (eigenvalue = 1.5, 6.4% of variance), and also included five items reflecting the *value* dimension of lifestyle as recorded in the COFREMCA inventories. This factor indicated the desire for a relaxed, stable, secure, and leisurely lifestyle, such as living by the lake or up the hill. The fourth factor, 'preference for foreign products' (eigenvalue = 1.4, 5.9% of variance), demonstrated an additional index not included in the original A.I.O. and COFREMCA lifestyle indicators. This factor reflects respondents' *interest* and *opinion* towards foreign products. Lastly, 'credibility of mass media' was an indicator of lifestyles similar to what COFREMCA found in the IMI Consumer Surveys 1995 data set in urban China. This index describes respondents' *attitudes* and *values* towards mass media, especially the trustworthiness of newspaper and advertising in general.

The sophisticated and fashionable and life expansionists indexes were similar to those reported by Valette-Florence & Jolibert[23] in the A.I.O. inventories, and the pleasure and enjoyable life and credibility of mass media in the COFREMCA. Given China's unprecedented economic reforms and foreign trade growth in recent years, foreign products in the Chinese marketplace are becoming increasingly common. The finding of the preference for foreign products index in this study further strengthens the A.I.O. and COFREMCA ability to assess different lifestyles which may be characteristic of the consumption trend in China.

RQ2: To what extent can demographics, lifestyle and media use predict innovativeness in media technology adoption in urban China?

Regression analysis in Table 2, using innovativeness as the dependent variable, indicates that demographics remain a powerful predictor in explaining respondents' innovativeness in urban China. As stated in diffusion theory[24] and found in previous research,[25] the relative earlier adopters were more educated young males with a higher socioeconomic status. Demographics explained 15% of the total variance. However, this study also found a significant contribution from lifestyle which differentiated between innovators and non-innovators. Individuals who adopted more media technologies appeared to be more sophisticated and fashionable in their lifestyle and with a great desire to expand their life and to improve themselves by taking on challenges and risks. Many of them preferred western products and had a more skeptical view of the credibility of mass media, especially the trustworthiness of newspapers and advertising. Desire for a pleasurable and enjoyable life was not found to be a significant predictor for innovativeness. Although small, the lifestyle factor explained the additional 2% of the total variance, after controlling for the five demographic variables. Four of the five indices in lifestyles, sophisticated and fashionable, life expansionists, preference for foreign

[22] Cosmas, *opcit* Ref. 19; Valette-Florence P. and Jolibert A., 'Social values, A.I.O., and consumption patterns: exploratory findings. *Journal of Business Research,* 1990, 20, 109–122.

[23] Valette-Florence, P. and Jolibert, A., *opcit* Ref. 22.

[24] Rogers *opcit* Ref. 18.

[25] Dutton, W.H., Rogers, E. M. and Jun, S. H, *The Diffusion and Impacts of Information Technology in Household. Oxford Surveys in Information Technology,* Vol. 4. Oxford University Press, New York, 1987, pp. 133–193; LaRose, R. and Atkin, D., Satisfaction, demographic, and media environment predictors of cable subscription. *Journal of Broadcasting & Electronic Media,* 1988, **32** (4), 403–413; LaRose, R. and Atkin, Audiotext and the re-invention of the telephone as a mass medium. *Journalism Quarterly* 1992, **69** (2) 412–421; Jeffres, L. and Atkin, D., predicting use of technologies for communication and consumer needs. *Journal of Broadcasting & Electronic Media,* 1996, **40**, 318–330.

Table 2. Multiple regression analysis of demographics, lifestyles and media use on innovativeness.

Predictors	Standardized Beta
Block 1: Demographics	
Age	− 0.24***
Gender	0.06**
Income	0.17***
Education	0.11***
Disposable income	0.09**
R^2	0.15
Block 2: Lifestyles	
Sophisticated and fashionable	0.08**
Life expansionists	0.04*
Pleasure and enjoyable life	− 0.00
Preference for foreign products	− 0.05*
Credibility of mass media	− 0.05*
Change in R^2	0.02
Block 3: Media Use	
Newspaper reading	0.06**
Magazine reading	0.01
Primetime TV watching	− 0.02
Change in R^2	0.01
Total R^2	0.18

Notes: # $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; $N = 2,012$; $F = 45.65$; $p < 0.001$.

products, and credibility of mass media, remained significant after the control.

In addition, media use also played an important role in predicting innovativeness. As it was generalized in the diffusion theory that earlier adopters have greater exposure to mass-media channels,[26] this study found partial support for this generalization from newspaper reading. Nevertheless, magazine reading and primetime TV watching did not show any significant effect on innovativeness. Media use explained 1% and the regression model explained 18% of the variance in total.

RQ3: What is the relative influence of demographics, lifestyle, and media use on the adoption of karaoke bars, video stores, personal computers, VCR, cable TV, pagers, and cellular phones in urban China?

To answer the third research question, seven logistic regression analyses were performed to assess the relationship between demographics, lifestyle factors, media use, and the adoption of these media technologies and services. Logistic regression[27] has been selected over discriminant analysis its adaptation provides the best fit for the analysis of dichotomous outcome (dependent or response) variables as well as interval or ratio variables.[28] The pseudo R^2 value measures the improvement of the log-likelihood obtained through the introduction of independent variables in a stepwise manner. The results are shown in Table 3.

The overall fitness statistics show that the models successfully predicted from 3.1 to 16.1% of the total variance in the probability of respondents adopting a new media technology in each of the seven adoption questions. First, when a total of five demographic variables were entered as the first block in the logistic regression equations to predict respondents' media technologies adoption patterns, this study found that educated young males with more disposable income seemed to be more likely to own personal computers, pagers, visit karaoke bars and video stores. Female respondents who were young and with a higher socioeconomic status tended to own VCRs and subscribe to cable TV. Not surprisingly, the

[26] Rogers, *opcit* Ref. 18.
[27] In logistic regression, pseudo R^2 value measures the improvement of the log-likelihood obtained through the introduction of independent variables in a stepwise manner. Pseudo R^2 is defined as $1 − (L_1/L_0)$, where L_1 stands for the log-likelihood of the theoretical model and L_0 stands for the null model with only the constant in the equation. Its significance is determined based upon the corresponding X^2 value or change in X^2 relative to its degrees of freedom. See Maddala, *opcit* (1983). Each coefficient represents the amount of variation in the probability of adopting a new media technology (p_1) given one unit of change in the independent variable. The expected coefficient under the null model should be 0.50. A significant deviation from 0.50 represents the effect of the corresponding dependent variable. X^2 is used to test the statistical significance of the model's coefficients. It plays the role of the F test in a regression analysis. The degrees of freedom used to test the null hypothesis are equal to the number of variables added to the constant.
[28] Hosmer, D. W. and Lemeshow, S., *Applied Logistic Regression*. Wiley, New York, 1989; Press, J. and Wilson, S., Choosing between logistic regression and discriminant analysis. *Journal of American Statistical Association,* 1978, **73**, 699–705.

Table 3. Predicting use of new media technologies by demographics, lifestyles, and media use in urban china (Logistic regression models)[a].

Predictors	Karaoke bars	Video stores	Personal computer	VCR	Cable TV	Pagers	Cellular phone
Block 1: Demographics							
Age	− 0.07**	− 0.05**	− 0.07**	− 0.02**	0.01**	− 0.02**	− 0.00
Gender (Male)	0.32*	0.50**	0.66**	− 0.08	− 0.25**	0.41**	0.20
Income	0.39**	0.25**	− 0.07	0.14**	0.19**	0.08 #	− 0.09
Education	0.08	− 0.03	0.58**	0.13**	0.08	0.21**	− 0.10
Disposable income	0.22**	0.01	0.33**	0.04	0.04	0.10 #	0.58**
Pseudo R^2 (%)[b]	14.3**	6.8**	14.7**	3.1**	2.2**	5.2**	3.7**
Block 2: Lifestyles							
Sophisticated and fashionable	0.03*	0.06**	0.01	0.02 #	− 0.00	0.02 #	0.03
Life expansionists	0.03	− 0.02	0.09**	− 0.00	0.01	0.03	0.06
Pleasure and enjoyable life	− 0.03	− 0.02	− 0.01	0.04*	0.06**	− 0.03 #	− 0.08
Preference for foreign product	0.02	0.02	0.01	0.05 #	0.04	0.04	− 0.03
Credibility of mass media	− 0.04	− 0.09**	− 0.06	− 0.04	− 0.03	− 0.01	0.06
Change in pseudo R^2 (%)	1.3	1.1	0.6	0.5	0.5	0.5	0.8
Change in X^2 (df = 5)[c]	12.27*	19.69**	11.56*	14.17*	14.12**	13.66*	5.43
Block 3: Media Use							
Newspaper reading	0.02*	0.01	0.01	0.02	− 0.01 #	0.02**	0.01
Magazine reading	− 0.01	− 0.02	0.04*	0.01	− 0.02	0.02	− 0.03
Primetime TV watching	− 0.04*	0.02	− 0.01	− 0.03 #	− 0.00	0.00	− 0.05
Change in pseudo R^2 (%)	0.4	0.3	0.5	0.2	0.1	0.5	0.7
Change in X^2 (df = 3)	9.18*	5.96	6.02	5.03	3.35	14.06**	3.52
Final pseudo R^2 (%)	15.4	8.2	16.1	3.8	3.1	6.2	5.2

Notes:

[a] Figures are standardized regression coefficients for variables entered. Dependent variables were measured by asking respondents to self-report if they currently own the new media technology at home. Data were coded with 1 = yes and 0 = no.

[b] A pseudo R^2 is expressed in percent of variance accounted for by the corresponding block. Pseudo R^2 is defined as $1 - (L_1/L_0)$, where L_1 stands for the log likelihood of the theoretical model and L_0 stands for the null model with only the constant in the equation. Pseudo R^2 value measures the improvement of the log likelihood obtained through the introduction of independent variables in a stepwise manner.

[c] X^2 is used to test the statistical significance of the model's coefficients. It plays the role of the F test in a regression. The degrees of freedom used to test the null hypothesis are equal to the number of variables added to the constant.

   $\# p < 0.1$; $*p < 0.05$; $**p < 0.01$; $***p < 0.001$; $N = 2,020$.

amount of disposable income appeared to be the single strongest predicting factor for the adoption of cellular phones. Demographics explained a 2.2–14.7% variance in the adoption of these technologies.

Second, lifestyle variables were entered next into the seven logistic regression equations. With the exception of cellular phones, all other new media technologies adoption patterns in urban China were explained by one or more lifestyle variables. Such findings validate the A.I.O. and COFREMCA concepts which suggest that lifestyles play an important role in consumption patterns. Cellular phone adoption was explained only by a demographic variable expendable income (Beta = 0.58). This may be rationalized by the novelty, high cost, and the low adoption rate (3.6%) of the technology in urban China. The block of lifestyle variables contributed from 0.5% to 1.3% variance in explaining adoption behavior, after controlling for five demographic variables. Although small in explanatory power (change in pseudo R^2), the X^2 statistics showed the significant improvement in six of seven models' coefficients. Specifically, being seen as 'sophisticated and fashionable' appeared to be an important lifestyle, explaining why individuals enjoyed visiting karaoke bars and video stores, and to a less extent owning VCRs and pagers ($p < 0.1$). Another lifestyle variable, having an opinion in the 'credibility of the mass media', was also significantly associated with video stores visits. However, the negative relationship suggests that video stores may be the alternative sources of entertainment for urban Chinese when traditional media failed to deliver for them. 'Life expansionists' also influenced personal computer adoption,

Table 4. Summary of new media technologies adoption and social identities.

Media technologies adopted	Predictive variables (Demographics)[1]	Predictive variables (Social Identities)[1]
1 **Karaoke bar**	1 Income (high) 2 Gender (male) 3 Disposable income (high) 4 Age (young)	1 Identified themselves sophisticated and fashionable
2 **Video stores**	1 Gender (male) 2 Income (high) 3 Age (young)	1 Distrusted what mass media have to offer 2 Identified themselves sophisticated and fashionable 1 Identified themselves life expansionists
3 **Personal computer**	1 Gender (male) 2 Education (high) 3 Disposable income (high) 4 Age (young)	
4 **VCR**	1 Income (high) 2 Education (high) 3 Age (young)	1 Preferred pleasured and enjoyable life 2 Preferred foreign products 3 Identified themselves sophisticated and fashionable
5 **Cable TV**	1 Gender (female) 2 Income (high) 3 Age (old)	1 Preferred pleasured and enjoyable life
6 **Pagers**	1 Gender (male) 2 Education (high) 3 Disposable income (high) 4 Income (high) 5 Age (young)	1 Preferred pleasured and enjoyable life 2 Identified themselves sophisticated and fashionable
7 **Cellular phones**	1 Disposable income (high)	No variables entered

Note: [1] Predictive variables are listed according to the strength of the standardized regression coefficients.

'pleasure and enjoyable life' predicted VCRs ownership, cable TV subscriptions, and owning pagers ($p < 0.1$). Finally, 'preference for foreign products' was also found to be significantly associated with owning VCRs, though at the level of $p < 0.1$.

Third, the block of three media use variables was entered. The results showed that media use contributed significantly to only two of seven predictions in media technologies adoption. Newspaper reading had a predictive power for visiting karaoke bars and owning pagers. On the other hand, primetime TV watching was found negatively related to visiting karaoke bars and owning VCRs. The addition of media use variables accounted for less than a 1% increase in the total variance. Table 4 shows a summary of predictive variables in both the demographic and social identities dimensions.

Discussion and conclusions

Key findings of this study indicate that the adoption of certain new media technologies appeared to project certain social identities such as 'life expansionists', 'sophisticated and fashionable', and 'pleasurable and enjoyable'. Most importantly, this study confirms the usefulness of lifestyles as a new set of attitudinal variables to supplement demographics and suggests how consumers manipulated consumption object meanings to fit

their social identity. For example, the desire for a *sophisticated and fashionable* lifestyle was found to be significantly associated with visiting karaoke bars and video stores, while seeking a *pleasurable and enjoyable* lifestyle was related to VCRs and cable TV use. Just as fashion was used as a consumption object in order to make status distinction and to express membership in well-defined classes and status groups, this study found that being able to visit karaoke bars and video stores appeared to be an instrumental act to help classify individuals as being sophisticated and fashionable. This act facilitated the symbolic property of these consumption objects as these consumption behaviors easily provide observable benefits—being trendy. Subscription to cable TV and possessing a VCR may provide urban Chinese with an appreciation for these two functionally similar technologies for a compatible value and need—an enviable, pleasurable and enjoyable style of life. Similarly, having a personal computer can be seen as 'life expansionist' with high hopes and a craving to learn more about technology to brighten one's future. Thus, adoption of this technology provided a relative advantage in projecting certain social prestige or social distinction.

Again, these findings supported generalizations in diffusion research and similar psychographic research already observed by Comas (1982), Levy and Rosenberg,[29] which demonstrated the importance of 'consumption for social identity' accomplished through 'consumption-as-integration' and 'consumption-as-classification' and their relationship to lifestyles. In all, this study suggested that these valued consumption objects may be used to impress, to engage others as friends, or simply to play.

In sum, as the demand for new media technologies grows in China, it will be important to further our understanding on adopter profiles as well as lifestyle attributes and their relationship to media technologies adoption behavior. Just as cultural values were found to be an important determinant of consumer behavior, lifestyles could be helpful in giving clues in designing advertising copy for products.[30] As more is known regarding the attitudinal factors of adoption, it will certainly benefit marketing managers and media planners in devising better positioning and communication strategies for promoting new media products in the future.

Finally, similar to consumer research, new media technologies adoption research also requires cross-cultural comparison if generalization is to be made. Models and perspectives in diffusion research developed in North America suffer a great extent from lack of cross-cultural validity. Although this research has demonstrated that lifestyle, in addition to demographics, is a useful predictor in the adoption of new media technologies in urban China, direct transplantation to other cultures may be dangerous. People in different cultures have different world views and individual choices are affected by very complex social influences or situations. Hence, the present research provides a much culturally relevant and specific contextualization, taking account of the differences in adopter motivation and behavior, so that similarities or differences in new media technology adoptions among cultures can be found and compared in the future.

[29] Maddala, G. S., *Limited-Dependent and Qualitative Variables in Econometrics.* Cambridge University Press, Cambridge, 1983.
[30] Comas, *opcit* Ref. 15. Levy, *opcit* Ref. 9; Rosenberg, *opcit.* Ref. 8.