Gender and Age Differences in Individual Decisions about Wireless Mobile Data Services: A Report from China

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Key Topics

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2. Research Model
3. Background on Age and Gender
4. Methodology
5. Findings and Additional Findings
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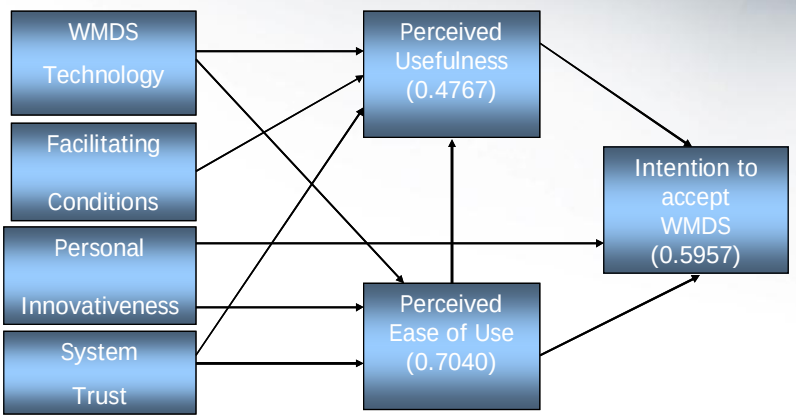
WMDS Adoption Model in China



Research Needs

- Are data services via wireless mobile channels effective to cope with digital divide caused by age and gender differences in China?
- Research of the possible associations between demographic characteristics and acceptance of WMDS may help to provide useful implications for serving the subgroups of the potential users and to attract a broader user group.
- A focus on potential direct and moderating effects of age and gender on individual decision intentions regarding WMDS adoption in China.

Research Objectives

1. Understand the influence nature of age and gender respectively in relation to the decision pattern of WMDS adoption in China.
2. Understand the direct and moderating effect of age and gender respectively on the major determinants and major causal relationships of this decision intention pattern.
3. Understand the direct and moderating effect of age and gender combined on the major determinants and major causal relationships of this decision intention pattern.

Age Influence

- Age was repeatedly found to have moderating effect on performance expectancy (usefulness), effort expectancy (ease of use), social influence, and facilitating conditions in many TAM-related studies.
- Pioneer adopters of new ICT products are commonly believed to be young.
- In China, the majority of Internet users are aged below 30.
- Differences in learning oversea innovations.
- Differences in information processing.
- Age-related working memory deficits.
- Degree to which the new technology is perceived to be easy to use, would be more important for aged people in their decision to adopt or reject that technology.
- Direct influence over technology use, indirect influence through perceptions, and moderating the relationships between perceptions and technology use (Yi, Wu, & Tung, 2005-2006).

Gender Influence

- Gender is theorized to play a moderating role in IT/IS acceptance research.
- Men tend to be highly task-oriented (Minton and Schneider, 1980).
- Women typically experience high levels of anxiety in using computers (Morrow, Presll & McElroy, 1986).
- Gender roles have a strong socio-psychological basis and are relatively enduring, yet open to change over time.
- As the results of government-engineered gender equality, one-child policy, a higher level of women's education, urbanization, and increase in per capita income in China, gender influence is diminishing on their technology adoption pattern.

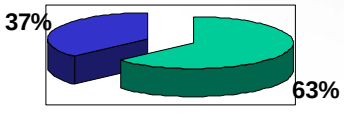
Age and Gender

1. Studies of gender differences can be misleading without reference to age (i.e., Morris and Venkatesh, 2000; Morris, Venkatesh, and Ackerman, 2005).
2. Early adopters are commonly thought to be young and male in most technology-led markets.
3. Young females have the same opportunities and level of independence in urban cities in China.
4. When adoption of WMDS in China is in concern, gender should play a less important role in young generation than in older generation.

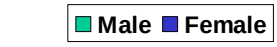
Participants and Settings

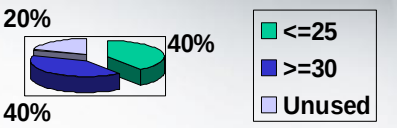
- Individuals from five cities across China – University students, graduate students/MBAs, business executives, and employees from state-run institutions.
- University instructors and professional survey collectors
- Survey conducted during June – November, 2004 and data arrived at the States by Feb 2005.

Descriptives



Total: 1377





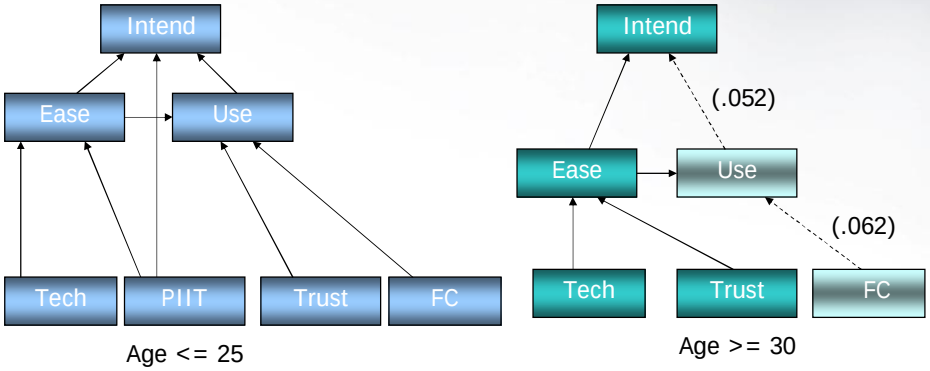
Total: 1325 (96%)

Of the 1600 collected survey questionnaires, 1432 completed surveys were identified as valid which secures a return rate of 89%.

Age

A marginal model fit: TLI = .902, CFI = .912, RMSEA=.032

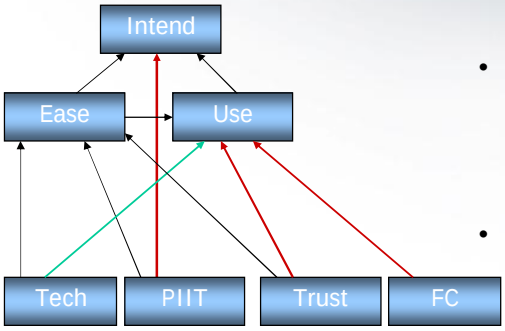
Model statistically significantly different for each age group at .001 alpha level (X^2dif=91.711, DFdif=40, P=0.000)



Discussions 1

1. Age was found an important moderator of respondents' decision intentions process toward WMDS in China.
2. In Aged group the younger ones had stronger intentions to use WMDS (R2 changed = .015, Beta=-.123, p=.004).
3. Aged group (6 on all PEU items) more sensitive to the learning curve related to the technology aspect of a specific innovation (Ziefle and Bay, 2005).
4. WMDS, a good option for those who believe in their age-related declines in cognitive, sensory, and physiological abilities (Plude and Hoyer, 1985; Posner, 1996).

Gender



- The simultaneous test turns out a marginal fit (X^2=3056.891, DF=1222, X^2/DF=2.502, IFI=0.906, TLI=0.897, CFI=0.906, RMSEA=0.033).
- Gender alone has no moderating effect on formation of the causal structure of WMDS adoption intention in China.
- Gender still gets in the degree of importance for PIIT(m), WT(m), FC(m), and WMDS Tech(f).

Age and Gender

- **Separate hierarchical regressions were conducted in each gender by age group.**

Age * Gender	Youth (X<=25)			Aged (X>=30)		
	Male (N=326)	Female (N=201)	Sig. of Dif.	Male (N=350)	Female (N=183)	Sig. of Dif.
R^2	.124***	.097***		.107***	.079***	
PIIT-> INT	.422***	.389***	ns	.430***	.297***	ns
R^2	.296***	.257***		.368***	.362***	
WT -> PU	.305***	.248***	ns	.423***	.321***	ns
FC -> PU	.390***	.407***	ns	.348***	.473***	ns

Note: ns = Non significant. *: p < .05; **: p<.01; ***: p<.001.

Dicussions 2

- Aged females based their intention least on PIIT.
- Aged males attributed their PU to evaluation of wireless trust environment.
- Females and especially aged females emerged as those who regarded facilitating conditions more important.
- Though statistically insignificant, currently gender plays a more subtle role, less important among young people than among aged people, which is more rooted in the educational opportunities and societal roles expected for different generations.

Additional Findings 1

Age * Use	Youth (X<=25)			Aged (X>=30)		
	Users (N=294)	Non-Users (N=235)	Sig. of Dif.	Users (N=285)	Non-Users (N=252)	Sig. of Dif.
R^2	.094***	.097***		.068***	.130***	
PIIT-> INT	.380***	.389***	*	.324***	.436***	**
R^2	.234***	.395***		.324***	.424***	
WT -> PU	.174***	.453***	*	.459***	.284***	**
FC -> PU	.434***	.328***	**	.294***	.508***	*

Additional Findings 2

Age * Gender * Use	Youth (X<=25)			Aged (X>=30)		
	Male (N=326)	Female (N=201)	Sig. of Dif.	Male (N=350)	Female (N=183)	Sig. of Dif.
Use | No	182 | 144	112 | 89		187 | 163	96 | 87	
R^2	.130	.114		.123	.089	
Use * PIIT -> INT	ns	ns	ns	P = .016	P = .041	ns
R^2	.317	.304		.392	.369	
Use * WT -> PU	ns	P = .012	**	P = .001	ns	**
Use * FC -> PU	ns	P = .002	ns	P= .002	ns	**

Conclusions

- This study re-examined WMDS Adoption Model in China (Lu, Yu, Liu & Wang, 2005) by incorporating age and gender as the grouping variables for model comparisons, and as moderators of the model's major constructs and core relationships.
- The Chinese urban respondents, regardless of their age or gender, all had strong intentions to adopt more advanced wireless data services via mobile phones.
- Age in this study is recognized as an important moderator of respondents' decision intentions process toward WMDS in China.
- Gender in this study did not have much moderating effect on the intention model formation in our study.
- Not much interaction between age and gender either as direct impact or as moderating effect. However, a combined effect of age and use on PIIT, a gender * age * use effect on WT -> PU and FC -> PU.

Implications

- A user-centered perspective to let the possible influences caused by age and gender emerge naturally through model comparisons.
- Useful for more focused attention to the special needs from people of different demographic profile.
- Important for reducing resistance to WMDS and forging adoption in different individual groups.
- Unisex pattern - supposed differences between genders should rather be interpreted with regard to age, and probably use and location differences as well.
- More meaningful to give increased attention to the needs of more matured and aged people in interface and service design.
- WMDS have strong potential for closing the digital divide gap in many countries, and esp. when a graying population is being experienced in many urban cities over the world.
- Cautions: variable means in hierarchical regression tests, non random selection of the respondents.

Questions and Comments?