

E-Business World Conference 2005

The Role of Trust in Government and Perceived Transaction Risks in Adopting G4C e-Government Services

Jung Lee*, Beomssoo Kim**
 *hanjoo@korea.ac.kr
 Graduate School of Business
 Korea University
 **beomsso@korea.ac.kr
 Graduate School of Information
 Korea University
 March 23, 2005

G4C e-Government Services

G4C e-Government Services

- A Vision of e-Government
 "Get Service 24 hours a day, 7 days a week"
- World Wide e-Government
 - ✓ e-Government Initiatives in 2002 by US Government:
 - Improve government efficiency and effectiveness
 - Improve government's responsiveness to citizen
 - Make it easy for citizens to obtain services and to interact with the federal government
 - ✓ The world's first official electronic voting was conducted in Switzerland in August 2004.
- Our research goals
 - To understand the dynamics of key factors for citizens using G4C e-Government services
 - To offer guides for governments in delivering e-Government services more effectively

G4C e-Government Services

What are e-Government Services?

- e-Government
 - The use of information & communications technologies for small, efficient and transparent government
 - High accountability through government web sites
 - Cost reduction in government administration by using online transactions
 - E-democracy achieved by easier citizen participation with electronic voting systems
- "e-" means
 - Efficiency, Effectiveness, Empowerment, Economic & Social development (UN/DESA 2002)
- e-Government Development stages (Garner 2000)
 Presence → Interaction → Transaction → Transformation

G4C e-Government Services

Adopting/Using e-Government Services

- e-Government services are:
 - G4C: Government for Citizen
 - G2B, G2G
- Key factors in Adopting e-Government services
 - Internet usage, legal and technological environment, phone lines, and government online service (Prattipati 2003)
 - Trust in government, perceived risks, credibility, anxiety, Ease of Use, usefulness, etc. (Wang 2003; Warkentin 2002)
- Korean G4C service case (10/2002 ~ 8/2004)
 - Use of services increased, as the number of services offered and the ease of use increased.
 - From April to July in 2003, usage increased by 170%.

Trust in Government

- **Trust**
 - An expectation that others one chooses to trust will not behave opportunistically by taking advantage of the situation (Gefen 2003)
- **The Role of Trust**
 - Overcome perceived risks (Torkzadeh 2002)
 - Decrease uncertainty, uncontrollability (Hoffman 1999), transaction complexity (Lütjmann 1979)
 - Increase necessary transactions
- **Trust in Government**
 - Government services need to have higher integrity, completeness, consistency, and fairness.
 - Trust in Government is needed to satisfy these expectations from its citizens and constituencies.

Perceived Risks in e-Government

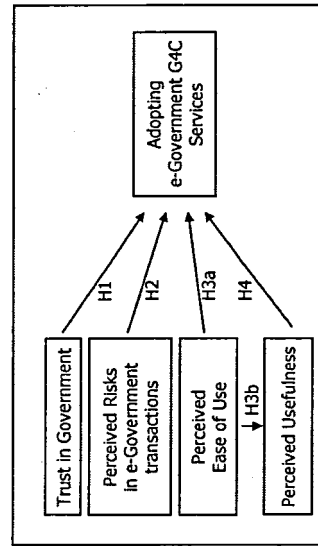
- **Perceived Risks**
 - A combination of the perception that something may go wrong and the perception of the seriousness of the consequence if it does (Garbarino 2004)
- **Risks involved in Online transactions**
 - Uncertainty from information asymmetry (Kollock 1994)
 - Product uncertainty (post-purchase uncertainty)
 - Partner uncertainty (pre-purchase uncertainty)
- **Transaction risks in e-Government**

Product risks	Online document fabrication, Product integrity
Financial risks	Credit card misuse, Cellular phone information misuse
Psychological risks	Privacy, security
Legal risks	Legal environment readiness

Trust, Risks, Ease of Use, and Usefulness

- **The relationship between Trust and Risks**
 - Risks moderates trust (Mayer 1995; Stewart 1999)
 - Trust moderates risks (McLain 1999)
 - Trust and risks interact with each other (Salam 2003; Moim 2000)
 - Risks are premises for trust (Mitchell, 1999)
- **Ease of Use & Usefulness**
 - Two main variables in Technology Acceptance Models (TAMs) (Davis 1989)
 - Perceived Ease of Use: the degree to which a person believes that using a particular system would be free of effort
 - Perceived Usefulness: the degree to which a person believes that using a particular system would enhance his or her job performance

Research Model



G4C e-Government Services

9

Research Design: G4C e-Gov. Services in Korea

Service available (as of Aug. 2004)	Privacy concerns	Cost	Services
Service currently in Use	Personal	No fee	Basic Information Search/Provision
	...ing Personal Data needed	Fee-based services	Opinions, suggestions, community activity under one's real name Complaints, suggestions, anonymous opinions Online public service request Online public data review/inspection ...ing public document transactions
Future services		No fee	Electronic voting

G4C e-Government Services

10

Research Design: Questionnaire

- Trust in Government
 - Questions developed by American National Election Study
 - Efficiency, fairness, integrity, profession, and public interest
- Perceived Risks
- Ease of Use and Usefulness
 - Questions from Technology Acceptance Models (Davis 1989, etc.)

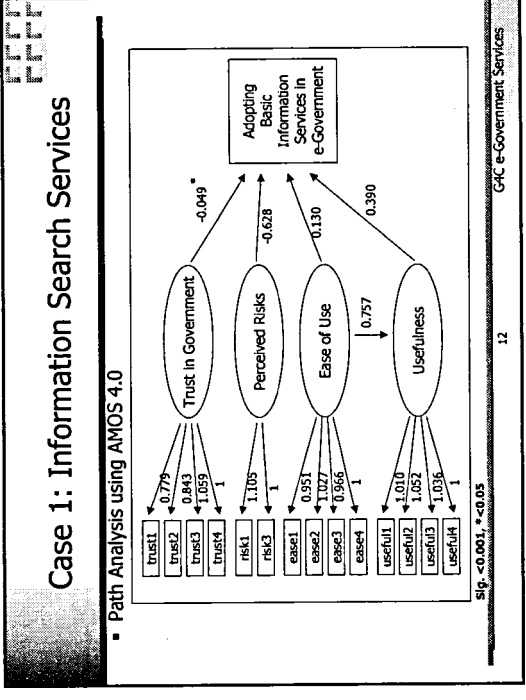
Services	Risk	Security	Product Integrity	Legal environment	Privacy	Credit cards	Online Document Fabrication
Basic Information Service	0	0	0	0	N/A	N/A	N/A
Courtesy Services Online	0	0	0	0	0	0	0
E-voting Services	0	0	0	0	0	N/A	N/A

G4C e-Government Services

11

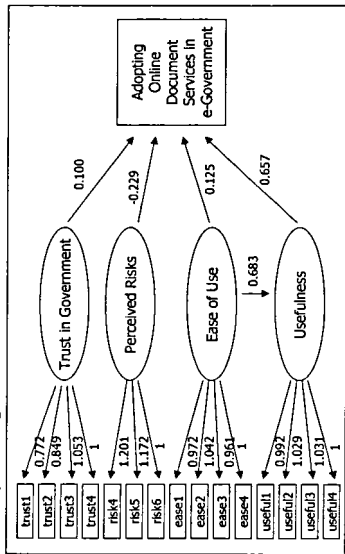
Survey Demographics

- Subjects: Korean adults using online services (3074 people)
- Gender
 - Male: 69.9%, female: 30.1%
- Age
 - 20s: 35.6%, 30s: 48.0%, 40s: 12.7%, 50s and above: 3.7%
- e-Government service experience during the last year
 - Never: 47.7%, One or two times: 34.8%, Occasionally: 13.8%, Frequently: 3.7%
- e-Government service experience frequency among 3074 persons
 - Information searching: 1025, subscription & login: 320, offering opinions & suggestions: 237, online service requests & inspections: 689, Online documentation services: 364
- Offline government service experience during the last year
 - More than ten times: 12.8%, 7-9 times: 11.7%, 4-6 times: 28.6%, 1-3 times: 36.4%, none: 10.4%



Case 2: Online Transaction Service

- Path Analysis using AMOS 4.0



G4C e-Government Services

13

Findings

Trust in government does not have a significant impact on the adoption of G4C e-Government services.

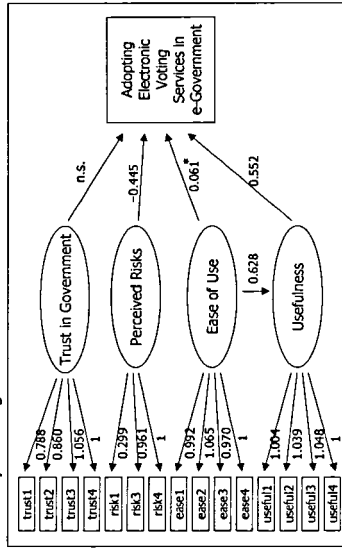
- Government services provider is unique.
- The need for government services is created and mandated by the law and social rules. → These facts lead e-Government services to a monopoly.
- For most competitive electronic business environments, trust often plays an important role in adoption and use. In contrast, for the G4C e-Government services where the provider has a monopoly, the perceived risks of the entity (the Korean government) is relatively low.
- The differences in the perception of government roles between politics and public service provider may partly contribute to this finding.

G4C e-Government Services

15

Case 3: Electronic Voting System

- Path Analysis using AMOS 4.0



G4C e-Government Services

14

Findings (contd.)

The impact of perceived risks on e-Government adoption differs in various types of G4C e-Government services.

- Perceived risks have negative impacts on the adoption of basic information services which are simple and straightforward services, because many alternatives such as Internet search via various portals and phone calls can be good substitutes.
- Perceived risks have relatively low impacts on the adoption of online documentation services which have relatively complicate processes and have no alternative. → Perceived risks vary depending on the complexity and the existence of alternative services.
- Means for the government that can reduce perceived risks of citizens
 - Technology development, legal support, education, and promotion via mass-media

G4C e-Government Services

16

Findings (contd.)

Perceived Usefulness plays a dominating factor in adopting G4C e-Government services.

- Perceived usefulness plays a main role in e-Government service adoption as in other types of information systems.
- This perceived usefulness implies "the relative usefulness of e-Government services compared to traditional government service."
→ To increase e-Government adoption, the government should support services which are distinctively more useful than traditional government services.

17

G4C e-Government Services

Findings (contd.)

Perceived Usefulness mediates the impact of Perceived Ease of Use on e-Government Service Adoption.

- Direct effect of Ease of Use on e-Government adoption is very low.
- This strong mediating effect of usefulness implies that "without usefulness, Ease of Use alone does not have any significant impact on e-Government service adoption." Therefore, the government should always consider Usefulness together with Ease of Use.
- Perceived Ease of Use and Usefulness are complementary.

18

G4C e-Government Services

References

- Davis, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13, 319-339.
- Garbarino, E., Straubet, M. (2004). "Gender Differences in the Perceived Risk of Buying Online and the Effects of Receiving a Site Recommendation." *Journal of Business Research* 57(7).
- Garner Group (2000). Key Issues in e-Government: Strategy and Management.
- Gefen, D., Karahanna, D., Lim, D. (2003). "Trust and Trust in Online Shopping: An Integrated Model." *MIS Quarterly* 27, 1: 51-90.
- Hoffman, D.L., Novak, T.P., Perella, M.A. (1999). "Building Consumer Trust Online." *Communications of the ACM* 42(4): 80-85.
- Kolkos, P. (1994). "The empty space of cyberspace." *IOE* 10(2): 313-324.
- Lufmann, M. (1979). *Trust and Power*. Chichester: John Wiley & Sons.
- Mayer, R. C., Davis, J.H., Schoorman, F.D. (1995). "An Integrative Model of Organizational Trust." *The Academy of Management Review* 20(3): 709-734.
- Mohr, L. D., and Reichel, M. (2000). *Trust in E-commerce* (2000). *Trust and Trust in Social Exchange: An Experimental Study of Trust in E-commerce*. *Journal of Business Ethics* 19(3-4): 339-347.
- Prabhakar, S. R. (2003). "Adoption of e-governance: differences between countries in the use of online government services." *Journal of American Academy of Business* 3(17): 386-391.
- Salem, A. F., Alsa, H., Raylaw, P. (2003). "Consumer-perceived risk in e-commerce transactions." *International Conference on Information Systems*.
- Stewart, K. J. (1998). "Trust in the Internet: A Study of Building Trust in World Wide Web Sites. Proceedings of the 20th International Systems Research Conference." *International Systems Research* 12(2): 25.
- Wang, Y. (2002). "Consumer Perceptions of Electronic Tax Filing Systems: an empirical study." *Government Information Quarterly* 20(4): 333-352.
- Winkler, M., Gefen, D., Ravlou, P. A., Rose, G.H. (2002). "Encouraging Client Adoption of e-Government by Building Trust." *Electronic Address* 12(3): 157-162.
- UNPESA (2002). *Plan of Action E-Government for Development*, UN.

19

G4C e-Government Services