

FACTORS INFLUENCING CITIZEN ADOPTION OF SMS-BASED E-GOVERNMENT SERVICES

*It is a summary of the survey results;
the full paper is in a process of publication in [Electronic Journal of e-Government \(EJEG\)](#),
we will provide the link on this website when it is available.*

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A survey to identify the factors that determine citizens use of SMS applications for public services was conducted for 3 months (April – June 2009) combining a web-based survey, paper-based questionnaires, and phone-call interviews.

Members of 31 mailing lists (covering countries in Asia, Africa, America and Europe) on different topics (daily life, religion, culture, education e-government, ICT, Human Computer Interaction, e-government, governance, and telecommunication) were invited to complete the web-based survey. The paper-based questionnaires and phone-call interviews were conducted for participants from Indonesia. In total, there were 159 participants from 25 countries involved in this study; the majority were from Indonesia and India, male and 31-40 years old. The characteristics of this sample are taken into account as a limitation for the conclusions.

Findings:

- *The higher the **awareness** of SMS-based e-government services the higher the likelihood of citizens **using** the services.* The awareness or individuals' knowledge about the existence and functions of SMS-based e-government services is an initial step toward an adoption-decision process for the services.
 - This finding recommends government to run intensive advertising campaigns about the services to make sure people are aware of SMS-based e-government services in order to increase the adoption of the services.
- **Male** citizens **aged 31 to 40** years are the most likely adopters of SMS-based e-government services.
 - This citizens group is recommended as an appropriate target for new SMS-based e-government services.
 - To increase the adoption of existing SMS-based e-government services, the campaigns about the services should pay more attention on citizens from outside this group.
- One of three citizens who were **aware** of the services **did not use** the services
 - The figure suggests that besides awareness of the services, there are other factors that should be considered to encourage citizens to use the services.
- The survey found that whether or not a citizen adopts an SMS-based e-government service is influenced by the citizen's perceptions toward using SMS-based e-government services, including:
 - (1) **Perceived ease of use**: the degree to which an individual perceives that the service is easy to use

- (2) **Perceived efficiency in time and distance:** the degree to which an individual perceives that the service reduces the time spent and effort to go to the public service office or to use another channel
- (3) **Perceived value for money:** the degree to which an individual perceives that the service is better value for the amount paid
- (4) **Perceived usefulness:** the degree to which an individual perceives that the service fulfils the one's needs
- (5) **Perceived responsiveness:** the degree to which an individual believes that his/her SMS will be responded by government quickly, appropriately and satisfactorily
- (6) **Perceived convenience:** the degree to which an individual perceives that the service can be accessed any time any where
- (7) **Perceived relevance, quality and reliability of the information:** the degree to which an individual perceives that the information is relevant for him/her, reliable and of high quality
- (8) **Trust in the SMS technology:** the degree to which an individual believes that using an SMS channel is safe and will not initiate any problems for him/her
- (9) **Perceived risk to user privacy:** The degree to which a citizen perceives that using the service and dealing with the government agency may divulge him/her personal information and pose problems for his or her privacy
- (10) **Perceived reliability of the mobile network and the SMS-based system:**
The degree to which an individual is confident that him/her mobile network is reliable when using the service and the SMS-based system is also reliable
- (11) **Trust in government and perceived quality of public services:** The degree to which an individual trusts the government and perceives that the public services have been delivered well
- (12) **Perceived financial risk:** the degree to which an individual believes that using the service might cause financial problems
- (13) **Perceived availability of device and infrastructure:** The degree to which an individual believes that the device and infrastructure for using the service are available for him/her
- (14) **Perceived compatibility:** the degree to which a citizen perceives that the service is consistent with the existing public service channels and the popular communication media.
- (15) **Perceived self-efficacy in using SMS:** the degree to which an individual is confident in using SMS.

→ To increase the acceptance of SMS-based e-government services, the systems should address all of these belief factors. For example, to increase *perceived usefulness* of an SMS-based e-government service, government should make sure that the service meets citizens' needs by conducting a preliminary survey before designing the service; to increase *perceived responsiveness* of a Listen SMS service, government could setup an automatic reply system and assign a group of staff to manage incoming SMS messages; to increase *trust in the SMS technology*, government could use encryption with each message; and to minimize *perceived risk to user privacy* and *perceived risk to money*, the government could publish a privacy statement, assure the confidence and security of the senders, and setup an easy and reliable system for verifying each transaction including a refund procedure.

- An intensive advertising campaign for the services in all **mass media** channels is critically important to make citizens aware of and to provide detailed knowledge about the services. The advertising campaign should involve people who influence individuals' decision making: **friends, family, teachers, experts, public figures, and government officials.**
- **Notification services** are the most frequently used followed by *Pull SMS*, *Listen*, and *Transaction SMS services*.
→ *Notification* services could be an appropriate starting point for governments who want to establish SMS-based e-government services.

The next survey will examine the relationships among the beliefs, intention to use, and actual usage of SMS-based e-government services. [Please joint with the Survey](#) (commenced in February 2010)