IMPACT FACTORS OF THE IMPLEMENTING EFFECT OF "INTERNET PLUS GOVERNMENT SERVICE" IN CHINA

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ABSTRACT

Since 2016, all provinces of China have been actively promoting the implementation of "Internet plus Government Service". However, there are some gaps in the implementing effect of "Internet Plus Government Service" in different areas. Identifying the impact factors of the implementing effect of "Internet plus Government Service" will improve the implementing effect of "Internet plus Government Service". This paper puts "Internet plus Government Service" in the research horizon of government innovation, and combines relevant theories to construct an analysis framework for the impact factors of the implementing effect of "Internet plus Government Service" from three dimensions: implementing object, implementing subject and implementing environment. This paper provides analytical ideas for empirical research on the implementation effect of "Internet plus Government Service".

KEYWORDS: "Internet plus Government Service", Implementing Effect, Government Innovation, Innovation Diffusion, Technology Acceptance Model

INTRODUCTION

The increasing political awareness and capacity of public have put forward newer, higher demands for public service, and have promoted the transformation of government innovation. As one of the main ways to improve management and service level for government, government innovation is a process with constant revision and improvement. The development of internet technology provides new ideas and directions for government reform and innovation. When public administration enters the era of information, government innovation and "Internet plus Government Service" have been combined closely. As main approach and important content of government innovation, "Internet plus Government Service" contributes to high-quality service and administration legalization. In addition, the problems and experiences accumulated in the implementation of "Internet plus Government Service" also provide lessons for other types of government innovation. Studying and identifying the impact factors of the implementing effect of "Internet plus Government Service" is conducive to the effective implementation of "Internet plus Government Service".

By reviewing the research of e-government and "Internet plus Government Service", we can find that the research covers a wide range of topics and results, and has conducted a series of research on the adoption, implementation and evaluation of e-government. Specifically, the research on the adoption of e-government is cantered on the technology acceptance model, and is combined with different models and theories to modify and improve the conclusions. The implementation of e-government is also discussed from different perspectives, including theory and practice. The

evaluation of e-government has gradually shifted from the examination of technical-oriented indicators such as political, economic and efficiency to the focus on citizen-oriented indicators such as public participation and government transparency, the content of the evaluation has been continuously enriched. However, there is still a lack of discussions on public administrators and specific implementation, the research mainly focuses on user-related or citizen-related perspectives and technology-related factors, ignoring provider-related perspective and organizational factors. The implementation of e-government is an internal issue of public administration, the research of citizen-related perspective cannot capture every aspect of the implementation of e-government alone.

Therefore, this paper takes the implementers of "Internet Plus Government Service" as research object and explores the impact factors of the implementing effect of "Internet Plus Government Service" from the perspective of government innovation.

Theory Basis

Innovation Diffusion Theory

Rogers is the official proposer of innovation diffusion theory. After the comprehensive analysis of thousands of innovation cases, he published 《The Diffusion of Innovation》 in 1962, the key issues such as the impact factors of diffusion innovation, diffusion process, and diffusion network are systematically explained. This book has been revised several times, and the research on innovation is relatively mature. Rogers believes that innovation diffusion is the process of innovation spreading through a specific approach among members of a social group over time. It is a multi-level communication with two main modes of communication: the first one is mass communication, including radio, television or newspapers; the second one is interpersonal communication, including face-to-face communication between two or more individuals. The diffusion of innovation consists of four key factors, namely innovation itself, the way of communication, time and social systems. The speed of innovation diffusion depends on the perceived properties of innovation, the types of innovation decision, the communication ways of innovation, the social system natures of innovation diffusion and the efforts of innovation agency personnel. It can be said that innovation diffusion theory not only analyzes the individual innovation adoption process from the micro level, but also explains the impact factors and comprehensive characteristics of innovation diffusion from the macro level.

Government Innovation Theory

In 1969, Walker published the paper "the diffusion of innovation among American states", which started the era of government innovation research. Walker believes that as long as a policy or project is new for the executing region, regardless of whether the policy is outdated or implemented in other regions, the local government is innovating. Government innovation is mainly composed of three basic elements: public innovation subject, practical innovation activities, and public interest-oriented innovation results. The mode of government innovation diffusion includes three forms: regional diffusion, national interaction and internal decision, and the innovation diffusion mechanism includes four types: learning, imitation, competition, coercion and socialization. Government innovation diffusion is influenced by the innovation effect (relative advantage, complexity, etc.), the owner of the innovation effect (subjective intention, etc.), potential adopters (cognitive ability, executive ability, etc.) and the diffusion environment (public demand status, supports from superior government, etc.). The sustainability of government innovation is influenced by internal and external environment, such as policies and legislation, innovation itself, such as adaptability and effectiveness, innovation process,

such as monitoring and evaluation, and the ability to maintain. The practice of administrators, the analysis of scholars, the discussion of media and the participation of public will also have an impact on the sustainability of government innovation. In addition, the institutionalized level of innovation is also a non-negligible factor affecting the sustainability of government innovation.

Technology Acceptance Model

Davis (1989) established Technology Acceptance Model (TAM) based on Theory of Reasoned Action (TRA). It is assumed that the behaviour is determined by the behaviour intention, the behaviour intention is affected by the use attitude, and perceived usefulness and perceived ease of use are the important variables influencing the use attitude. TAM provides a general analysis framework for technology acceptance behaviour. Venkatesh and Davis (2000) extended the traditional TAM to build processes that span social influences (subjective norms, voluntariness, and image) and cognitive tool processes (job relevance, output quality, result demonstrability, perceived ease of use) (TAM2). Venkatesh (2003) et al. constructed a Unified Theory of Acceptance and Use of Technology (UTAUT) based on the similarity among eight models, providing valuable insights into how and why employees decide to adopt and use Information Technology (IT) in the workplace. Venkatesh and Bala (2008) established the TAM3 model to provide managers with feasible pre-implementation and post-implementation interventions so that employees can better accept and effectively use IT. From TAM to TAM3, the technology acceptance model has gone through four stages: establishing model framework-refining internal factors- expanding external theories-exploring intervention measures, and has provided a complete research perspective and research paradigm for technology acceptance research.

Analysis on Impact Factors of the Implementing Effect of "Internet plus Government Service"

Analysis Framework

Most research of "Internet plus Government Service" is focused on public, ignoring administrator. As the specific implementer of "Internet plus Government Service", administrator is not only the conveyor of government service but also the special serviced person. If "Internet plus Government Service" is not accepted by internal administrator, let alone the effective delivery of government service to external public. Therefore, this paper pays more attention to administrator.

As main content and approach of government innovation, the research on impact factors of the implementing effect of "Internet plus Government Service" cannot be separated from the support of government innovation theory. In essence, government innovation is the result of the combined action of government administrator, organization environment, public, and social atmosphere formed by related interest groups. At the same time, "Internet plus Government Service" treats IT as main carrier and tool, the implementation of "Internet plus Government Service" cannot be separated from the adoption and use of IT. Wejnert (2016) used systems theory to treat innovation result as the output of an innovation system composed of innovation itself, innovator, and environment. Based on this, this paper integrates the government innovation theory and technology adoption model to construct a three-dimension theoretical framework of "object-subject-environment", and proposes specific impact factors of the implementing effect of "Internet plus Government Service".

Impact Factors under the Dimension of Implementing Object

The implementing object of "Internet plus Government Service" is government platform. "Internet plus Government Service" relies on government platform to provide one-stop government service for public. Therefore, government platform is of vital importance. Davis (1989) believed that the adoption of new technology depends on its perceived usefulness and perceived ease of use. Rogers proposed that innovation diffusion is affected by the relative advantage, complexity, compatibility, trial ability and visibility. Subsequently, research by Agarwal and Prasad (1998) found that three factors of relative advantage, complexity, and compatibility are most supported by empirical research.

Relative Advantage

Relative advantage is similar in meaning to variables such as perceived usefulness (TAM), performance expectation (UTAUT). Previous studies have shown that perceived usefulness and performance expectation have positive impact on personal IT adoption. In addition, "Internet plus Government Service" makes major changes to the role, work process, and organizational structure of original administrative organization; it is equivalent to a "destructive system" to some extent and will inevitably be strongly resisted by administrators. As "economic man", administrators will take action after a cost-benefit analysis on "destructive system". The implementing benefits of "Internet plus Government Service" are its relative advantages, such as the improvement of office efficiency, quality and experience. The relative advantage of "Internet plus Government Service" will stimulate administrators to adopt new technologies.

Complexity

Complexity is similar in meaning to variables such as perceived ease of use (TAM) and effort expectation (UTAUT). Previous studies have shown that perceived ease of use and effort expectation have negative impact on personal IT adoption. As mentioned above, administrators take a cost-benefit analysis of "destructive systems" ("Internet plus Government Service") and then take action. In this paper, the implementation cost of "Internet plus Government Service" is the operational complexity, that is, the degree of difficulty in using government platform. If government platform is complex, it will take a lot of extra time and energy to make up for the use of government platform, which will often cause the overload of the work quantity and the incontrollable work environment. The relative advantage brought by "Internet Plus Government Service" are offset by the efforts to implement "Internet Plus Government Service". As a result, administrators are reluctant to accept new system.

Compatibility

"Internet plus Government Service" uses "Internet Plus" thinking to build an integrated government. In this paper, the compatibility of "Internet plus Government Service" is mainly manifested as the coordination and integration of all departments in the implementation of "Internet plus Government Service", the specific representation is the integration of each system. If systems can be effectively integrated, and administrators really feel the convenience and effectiveness brought by "Internet plus Government Service" in their work, they will have more motivation to carry out the implementation of online platform. If systems and the information datum cannot be effectively integrated, then the phenomenon of "information isolated island" will still exist. "Internet plus Government Service" cannot achieve actual results, but increases administrative burden on administrators; they will resist the implementation of the "Internet Plus Government Service".

Result Demonstrability

Venkatesh and Davis (2000) argued that "if people cannot attribute their performance improvement to their use of the system, then even effective systems may not be recognized by users." That is result demonstrability, in simple terms, the linkage between system adoption and adoption results. If administrators can easily see the co-variation between "Internet Plus Government Service" and positive results, then they will form a more positive view of "Internet Plus Government Service" and will be more willing to promote the implementation of "Internet Plus Government Service". On the contrary, if the implementation of "Internet plus Government Service" produces the effective work-related results that people want, but in a vague way, then they will be unlikely to understand the reasons for implementing "Internet plus Government Service".

Impact Factors under the Dimension of Implementing Subject

Any administrative activities and the management control ultimately be implemented by person, and the same is true of "Internet plus Government Service". Administrator is always the most important and critical component of "Internet plus Government Service" and an indispensable part of promoting the implementation of "Internet plus Government Service".

System Anxiety

Boudreau and Robey (2005) believed that the use of the new system would cause additional physical and psychological burdens on employees, which would make employees, feel anxious, thus affecting the implementation of new system. Venkatesh and Bala (2008) confirmed the effect of computer anxiety on people's computer use behaviour. Ninaus (2015) et al. believed that the hyperspace of IT prolongs the working time of users, blurs the boundary between work and life, and causes extra pressure and anxiety. The implementation of "Internet plus Government Service" puts forward higher requirements on administrators' innovation and execution ability, which has brought great psychological pressure and anxiety to administrators. When "Internet plus Government Service" brings great anxiety and pressure to administrators, they will have negative resistance, which further affects the implementing effect of "Internet plus Government Service".

Self-Efficacy

Bandura (1982) proposed the concept of self-efficacy, believing that self-efficacy is the process of judging one person's ability to perform the required actions in expected situation, and believed that "in any given situation, behaviour will be the best predictor by considering self-efficacy and outcome belief". The effect of self-efficacy on behaviour was confirmed in subsequent research of computer use by Hill et al. (1987). The higher a person's sense of self-efficacy, the more confident he is to use technology to complete a specific task, the more confident he is to deal with the obstacles and difficulties in the implementation of new system, which will have positive impact on the implementation results. Therefore, the sense of self-efficacy of administrators will influence the implementing effect of "Internet plus Government Service".

"Internet plus Government Service" Attitude

Fishbein and Ajzen stated that individual attitude determines behavioural intention, and behavioural intention further influences individual behaviour. Subsequently, a series of technology acceptance models proposed by Davis and Venkatesh also confirmed the decisive role of use attitude on use behaviour. Therefore, administrator's potential Attitude towards technology use and

"Internet plus Government Service" directly affect their performance in "Internet plus Government Service". If administrators hold a positive view of "Internet plus Government Service", they will consider it from a long-term perspective and ignore temporary difficulties and overcome obstacles. If administrators hold a negative view of "Internet plus Government Service", they will magnify difficulties infinitely, generate laziness and lack enthusiasm to implement.

Impact Factors under the Dimension of Implementing Environment

The implementing environment of "Internet plus Government Service" can be generally divided into macro social environment and micro organizational environment. The implementation of "Internet plus Government Service" is inseparable from the impact of implementing environment.

External Environment

Halverson et al. (2005) argued that public opinion and media opinion are the important external forces that driving innovation in public sector. Welch and Pandey (2014) analyzed the external environment of e-government from the perspective of stakeholders. Stakeholders of the implementation of "Internet plus Government Service" include public, media and other government agencies. The public's attention and participation play a monitoring and feedback role in the implementation of "Internet plus Government Service". The propaganda and attention of the media expand the influence of "Internet plus Government Service", thus provide diffusion approaches for "Internet Plus Government Service". The support and cooperation between government agencies can help break down departmental barriers, which is the basis for the effective and continuous implementation of "Internet Plus Government Service".

Facilitating Conditions

Facilitating conditions can be divided into hardware facilities and software facilities, namely tool equipment, financial support, intellectual support. Venkatesh's UTAUT puts facilitating conditions into the scope of impact factors of technology use behaviour. Stirman et al. (2012) found that organizational maintenance capacities (capital and resource) produce important influence on innovation sustainability. Facilitating Conditions are the basis for one organization to implement new system. When members of the organization do not have the necessary resources to implement new system, they often try to avoid the implementation of new system. To be specific, hardware facilities are the premise for the implementation of "Internet plus Government Service", financial support is the basis for the continuous implementation, and intellectual support is helpful for administrators to quickly understand, familiarize and master the key of "Internet Plus Government Service". Therefore, in the implementing process of "Internet plus Government Service", if there are no facilitating conditions, "Internet Plus Government Service" will not be sustainable.

Organization Rules

System theory holds that organizations are deeply embedded in the social and political environment, organizations' practices and structures are often the reflection and response to rules, beliefs and customs. Some scholars have shown that the absence of organizational rules and regulations will seriously affect the quality and efficiency of organizational work. Moore and Hartley (2008) argue that the laws, regulations and governance rules of government organizations are important considerations for the sustainability of innovation. The implementation of "Internet plus Government Service" has brought a huge impact to government organizational members and structures. A series of rules and regulations such as implementation measures need to be established to ensure the steady development of government, to ensure the legitimacy

of the implementation of "Internet plus Government Service", so that the implementation of "Internet plus Government Service" has foundation to follow.

Leadership Efficacy

Leadership in an organization is critical to the organization's implementation activities. Perry and Kraemer (1980) argued that the support of chief executive produces important influence on innovation adoption and performance. Koac et al. (2016) believed that the leadership of innovation leaders affects the process of government innovation. The power and political skills of leaders have an important impact on their subordinates, which will affect the implementing effect of government innovation. In China, local government leaders influence the actual implementation of superior policies. In terms of "Internet plus Government Service", support and commitment of superior can effectively arouse administrators' enthusiasm and encourage their beneficial exploration of "Internet plus Government Service". Without the support and recognition of superior leaders, it will increase the difficulties for administrators in the implementation of "Internet Plus Government Service".

Communication and Cooperation

Effective communication and cooperation among members of an organization can promote the sharing and spread of relevant information and experience, and the communication and cooperation atmosphere within one organization is conducive to the implementation and development of innovative activities. Traditional administrative organizations have poor communication and cooperation, which is not conducive to the mutual learning and sharing of administrators. As far as "Internet plus Government Service" is concerned, communication and cooperation among members of the organization can bring specific help and guidance in the implementation of "Internet plus Government Service" and stimulate the spark of innovation among members. Good team cooperation is conducive to the exchange and learning between different departments within the organization, and further promotes the effective implementation of "Internet plus Government Service".

In summary, based on the constructed "object-subject-environment" analysis framework, this paper analyzes the impact factors of the implementing effect of "Internet Plus Government Service", and draws a theoretical model based on this (Figure 1).
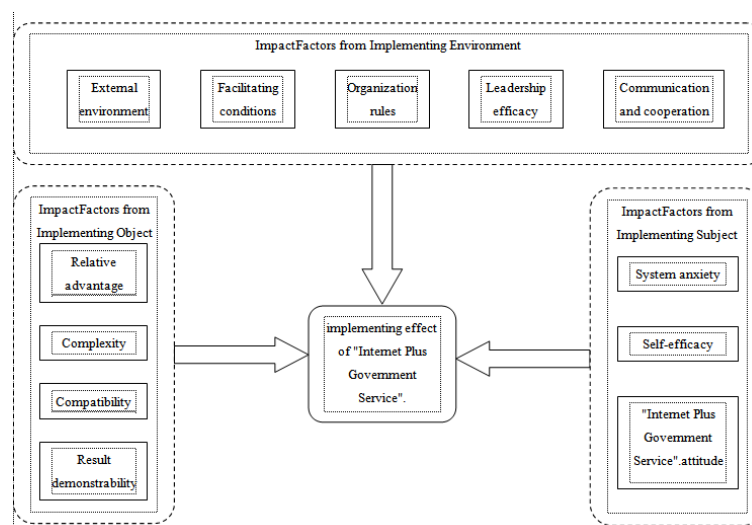

Figure 1: Theoretical Model of Impact Factors

CONCLUSIONS

Based on government innovation theory, innovation diffusion theory and technology acceptance model, this paper constructs a three-dimension analysis framework from implementing subject, implementing object and implementing environment to analyze the impact factors of the implementing effect of "Internet Plus Government Service", which includes the relative advantage, complexity, compatibility, result demonstrability of government platform; system anxiety, self-efficacy, and "Internet Plus Government Service" attitude of administrator; external environment, facilitating conditions, leadership efficacy, communication and cooperation of organization. It improves the "innovation generation-effectiveness transformation-effectiveness maintenance" theoretical system and provides research ideas for empirical research on implementing effect of "Internet plus Government Service" in the future.

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