

DOCTORAL DISSERTATION

PROMOTING E-SERVICE TO CITIZENS: A Case Study of Local E-Government in a Chinese Municipality

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ACRONYMS AND ABBREVIATIONS

APEC	Asia-Pacific Economic Cooperation
AVE	Average Variance Extracted
AWS	Awareness
BPR	Business Process Reengineering
CIO	Chief Information Officer
EFA	Exploratory Factor Analysis
GCIO	Government Chief Information Officer
G2B	Government-to-Business
G2C	Government-to-Citizen
G2E	Government-to-Employee
G2G	Government-to-Government
IAC	International Academy of CIO
ICT	Information Communication Technology
ITU	International Telecommunication Union
LV	Latent Variable
MPCU	Model of PC Utilization
MV	Manifest Variable
OECD	Organization for Economic Co-operation and Development
PEOU	Perceived Ease of Use

PLS	Partial Least Squares
PLS-SEM	Partial Least Square-Structural Equation Modeling
PU	Perceived Usefulness
SEM	Structural Equation Modelling
SNS	Social Networking Service
TAM	Technology Acceptance Model
TRA	Reasoned Action Theory
TPB	Planned Behavior Theory
UTAUT	Unified Theory of Acceptance and Use of Technology

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ABSTRACT

The development of information and communication technologies (ICT) has impacted every aspect of society, including the way governments interact with citizens. In line with this trend, electronic government (e-government) first appeared in the 1990s, leading to a worldwide management reform. Academia has responded to this transformation with massive interdisciplinary studies on e-government issues that concerns a range of different fields.

While governments and public bodies have promoted the adoption of e-government services over the last decade, the impact of this process has not been fully assessed. There is also a lack of research exploring how governmental activities can directly affect users' behaviour, though the latter is frequently analysed in technology-featured models. Therefore, the present study focuses on this phenomenon of e-government practice: the government's promotion of e-services to citizens, especially in local administration.

Research objectives: This dissertation addresses two major issues of e-government promotion: first, the underlying structure of e-government promotion including objectives and activities; and second, the relationship or mechanism between the objectives and activities.

The first research objective is to identify the promotion of e-government services and its impact on citizens' behaviours, while the second objective is to propose a model of e-government promotion utilising public marketing strategy and e-government research. Finally, the third research objective is to provide an observation of the latest local e-government services including public-private collaborative platforms and their promotional practice, in the context of a Chinese municipality.

Methodology/approach: This study adopted an exploratory design: the multivariate research method. In phase 1, qualitative studies were conducted, including a pilot survey and in-depth interviews, to establish the structure of a conceptual model using the generated thematic instruments. Then, in phase 2, exploratory factor analysis (EFA) and partial least square-structural equation modelling (PLS-SEM) were applied as quantitative tools to measure and evaluate the

proposed model with evidence for construct validity and reliability.

Findings: First, four e-government promotion activities are identified via qualitative factor-checking and quantitative verification: ‘publicity’, ‘advertisement’, ‘WeChat and Weibo usage promotion’, and ‘staff personal persuading’ in the context of local Chinese e-government. Second, the findings justify the direct impacts of promotion on citizens’ awareness, perceived usefulness, and perceived ease of use; and support the positive influences of this promotion on citizens’ behaviours towards e-services. Lastly, WeChat and Weibo Government are found to have a leading position among Chinese local e-government service applications regarding awareness and adoption rates.

Practical implications: First, this study demonstrates the importance of e-government promotion, whether in regions with comparatively higher or lower level of ICT development. The measurement model of e-government promotion may provide suggestions for policy-makers at the level of local government to design a more systematic plan for promoting e-services to citizens. Second, this study presents the latest e-government developments such as the e-service platforms built on Social Networking Service (SNS) in China, which may further contribute to the utilisation of SNS in other regions’ e-government implementation.

Research limitations: The first limitation of this study is the small size of in-depth interviews. Secondly, there may have other kinds of promotional activities existing in different regions. Thirdly, besides the government’s promotional activities, some other factors may also affect citizens’ satisfaction such as the quality of service delivery and demographic impact. Finally, since the sample was collected in Chongqing municipality, the explanatory power of the proposed model may be restricted to that specific area.

Originality and value: This is the first study to provide a public marketing perspective that focuses on citizens’ behaviours towards e-government services. Moreover, it examines e-government promotion with the latest emerging e-government service platforms under the public-private collaboration in the case of a Chinese municipality.

Key word: E-Government Promotion, Citizens’ behaviors, Marketing Strategy, Local e-Government, WeChat Government, Weibo Government

Chapter 1 Introduction

1. Introduction

This chapter introduces this dissertation. The table below illustrates the structure of the chapter.

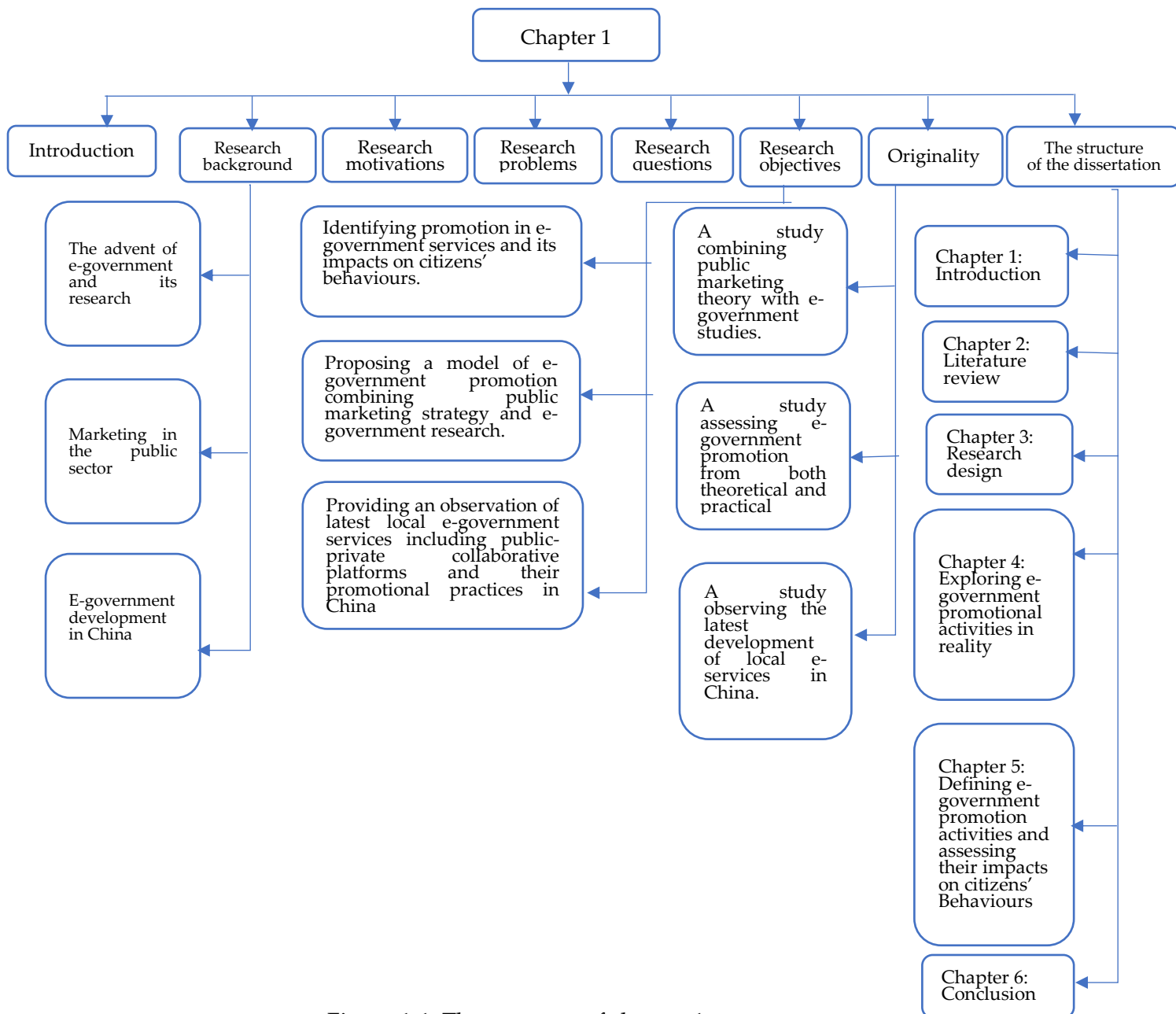


Figure 1-1. The structure of chapter 1

The chapter begins with a brief introduction of the research background. It describes the status of electronic government (e-government), which is rapidly developing in Chinese society. On the other side of public policy, the chapter examines marketing strategy, which has started to show its applicability in the public sector. Next, the chapter critically examines current studies regarding e-government and public marketing theory to establish the motivation for the research. Research problems are then derived from this discussion, followed by research questions. Subsequently, the research objectives are stated and the originality of this dissertation is defined. Finally, the structure of the dissertation is outlined.

2. Research background

The development of information and communication technologies (ICT) has impacted every aspect of society, including the way government interacts with citizens. As the rapid spread of the information age reform begins to affect the governance area, public authorities must adapt whether they want to or not. In line with this trend, e-government first made an appearance in the 1990s, leading to a worldwide management reform. Leaving aside terminological alteration, e-government continues to extend its scope to cover e-information, e-consultation, e-transaction, open data, and e-democracy (Ronaghan 2002; OECD 2005; UN 2016).

Academia has responded to this transformation with massive interdisciplinary studies on e-government issues. Within the development of e-government practice, research on this topic concerns a range of different fields. Bolívar et al. (2010) examined e-government research in depth with regard to the covered topics and academic departments involved (Rodríguez Bolívar, Alcaide Muñoz, and López Hernández 2010). Scholars from public administration (22.5%), public and policy science (15.2%), management science (12.4%), and computer science and information systems (10.6%) have been identified as the four leading academic groups investigating e-government. About research themes, e-government studies comprise topics such as 'technological innovation and modernisation in public administration management', 'e-government

programme evaluation and policy analysis', 'behaviour of citizens in relation to the applications of e-government', and 'legislative architecture', among others. Because the characteristics of e-government concern both technological and managerial issues, scholars make use of explanatory theories on humans' technology acceptance originating from information system and psychology, as well as policy science in governance. It is difficult to position e-government research in a specific field, not only because it contains two significantly different dimensions, but also because of the difficulty of capturing the daily changing features of e-government. On the other hand, this provides a chance for researchers to examine possibilities for improvement by utilising knowledge from diverse disciplines.

For example, marketing strategies have been used in government and social service agencies since the late 1970s (Crompton and Lamb 1986). Using a marketing mix has the benefit of influencing the public at a certain level and encouraging their actions. In the case of e-government, marketing could have the power to enhance the presence of e-government applications. Marketing used to treat customer value and satisfaction as a key in the private sector; however, nowadays this has changed to citizen value and satisfaction in the public sector (Lee and Kotler 2006). Under these circumstances, public marketing strategy seems to have an interesting linkage with e-government, since they both emphasise a citizen-centred culture, not to mention the fact that one of the main efforts of e-government is to serve citizens as customers with better public services. In this vein, the aim of the present study is to develop new ideas to connect public marketing strategy and e-government research.

Regarding e-government in the empirical world, delivering e-services remains an important segment of e-government policies. In practice, greater community contact is often seen as more practical and achievable at a local level (Shackleton, Fisher, and Dawson 2004). In the case of local e-government in China, the nation published the latest economic and ICT national strategy, 'Internet Plus'¹, in 2015. It aims to utilise information trends to boost society development. The 'Internet + Government'

¹ The original Chinese name is "互联网+".

²section advocated for governments to provide citizen-centred public services via ICT regarding public management, online healthcare, and citizen participation, among others. Based on the 'Internet Plus' strategy, a special collaboration has begun between local governments and private internet enterprises: government services are imported into the commercial social networking service (SNS) platforms known as WeChat and Weibo. It is certainly not the first time that a government has sought a public-private collaboration in the service-delivering process. However, through this new type of e-platform, citizens have obtained convenience and are experiencing less of a hassle by surfing on the all-in-one gateway to enjoy popular services, whether for work or entertainment (Stanciu 2015). Private sectors may have more experience than public organisations in dealing with customers via digital channels, which gives governments a chance to learn more from corporations in marketing to customers, and in this case, citizens.

3. Research motivations

First, as e-government research suffers from definitional vagueness of the concept and complex political and institutional environment (Yildiz 2007), efforts should be made to put explanations of e-government projects under the umbrella of political and administrative science besides technology discussion. By way of example, scholars have suggested tying the subject of e-government strongly to mainstream public administration research (Yildiz 2007; Rodríguez Bolívar, Alcaide Muñoz, and López Hernández 2010). To achieve a better understanding of the implementation of e-government projects from a policy-based perspective, this study analyses the influence of governmental marketing strategies on citizens' behaviours towards e-government services. Besides the impacts of technological user experience, the government's communicational skills may be considered as a useful instrument to encourage citizens to show the desired response towards e-government services.

Second, e-government research should take multiple disciplines into account due

² The original Chinese name is "互联网+政务服务".

to its complex nature crossing governance and technology. Osborne (2010) claims that the complexity of public services delivery has moved from a generation when it could be understood either by the policy and administrative focus of public administration or by the intra-organisational and managerial focus of public management; now, attention must also be paid to the public service delivery systems (Osborne 2010). E-government services cover a spectrum, including multiple objects and a motive force driven by the constant progress of technology. Thus, the logic of e-government must be studied not in a steadfast field, but from multiple angles.

Third, as advances in technology have rapidly changed society with each passing day, new phenomena from the operations of e-government projects need more attention and connection to theoretical values. E-government may have the potential to shape and restructure society because of its technical features. Conversely, some also argue that technology should be enacted to serve existing institutional purposes (Fountain 2004). An e-government project is a type of public policy implemented by authorities, after all. In any event, this research is motivated to capture the trend in the e-government area to extend theoretical and empirical understanding of this dynamic field, in the context of the digital era.

4. Research problems

Around the world, each authority has its own strategies to support the implementation of e-government. Governments and public bodies have fostered the development of e-government services over the last decade, promoting more and better administrative services through digital channels. However, the academic discussion regarding e-government promotion and its impact is insufficient (Fernández-i-Marín 2011). Besides infrastructure and legislative preparedness, investment in e-government programmes is dispersed in various aspects. Promotional activities are exactly one of these investment by public bodies.

Incidentally, previous e-government studies have devoted efforts to identifying the importance of citizens' cognitive behaviours towards e-government services, such

as awareness, intention to use, and satisfaction. As mentioned above, studies regarding e-government issues cover multi-dimensional sciences. To determine the underlying structure of citizens' behaviours, scholars have tried to identify appropriate doctrines from other research areas to draw on their logic. Several theories have achieved some success in identifying user adoption and its determinants in information system, and this has been incrementally absorbed into e-government research. For instance, the technology acceptance model (Davis 1989) and unified theory of acceptance and use of technology (Venkatesh et al. 2003) are particularly frequently used in analysing e-services adoption. However, in terms of the e-government domain, e-service is not only the introduction of new technologies to public life; it is sometimes a necessary mission of country's public policy. As development strategies differ among nations, e-government service may be mandatorily established that differentiate themselves with emerging technologies chosen for users' interests (such as e-commerce). It is necessary to analyse the potential influence of the interaction between government and citizens directly on the individuals, not in terms of technical changes, but with regard to communication and management.

As there is a history of applying marketing strategies in the public sector (Philip and Nancy 2016), promotion of e-services could be analysed in the perspective of combining public marketing theory and e-government studies. Promotion activities in the e-government trial share semblable objectives with marketing theory. For instance, promotion in marketing aims to raise customer awareness and create brand loyalty (McCarthy and Perreault 1993). In the context of e-government promotion, governmental departments yearn for public awareness of the newly published service platforms, increasing and ultimately keeping public adoption of services. It is a natural choice for governments to turn to a marketing strategy when facing a similar situation to that in the private sector: it has a target group and a market. In terms of e-government, users are regarded as the audience to whom the administration needs to promote e-services. In the same vein, promotion in e-government has its pattern and goals like promotion in marketing strategy does. Whichever happens, these are

waiting to be explored.

Finally, the ongoing trend of local e-government services in China based on public-private collaboration may serve as a good case for analysing promotion in e-government. In this example in China, local governments are consulting with Tencent³ and Sina⁴, two top internet corporations, to have a better mode of service delivery. With their experience of operating WeChat and Weibo SNS platforms, those two companies offer their strengths in attracting and retaining customers in the usage of internet services to public departments. In the process of promotion towards citizens, governments may seek help from private sectors, in which marketing strategy is very likely to be applied. This serves as motivation in this study to deeply investigate the promotional course in the case of a Chinese municipality.

5. Research questions and objectives

Based on the above explanations, three following research questions are formulated:

- (1). What are the goals of governments' promotional activities to citizens in the practice of e-government?
- (2). What kinds of promotional activities has e-government adopted in practice?
- (3). How do the promotional activities affect citizens' behaviours towards e-government services?

Furthermore, three research objectives are linked to these research questions. This study focuses on the promotion section in e-government services, based on the case of local e-government in a Chinese municipality. The first objective is to identify the promotion of e-government services and its impact on citizens' behaviours, especially in the practice of local e-government, which may be the closest to citizens in the operation of municipal administration.

³ More introduction about Tencent can be found in 4.2 of chapter 2.

⁴ More introduction about Sina can be found in 4.2 of chapter 2.

The second research objective is to propose a model of e-government promotion utilising public marketing strategy and e-government research. The model combines a framework to measure promotional activities and an explanation of the relationship between activities and goals, which are the behaviours that the government expects of citizens.

The third objective is to examine the latest local e-government services including public-private collaborative platforms and their promotional practice, in the context of a Chinese municipality. This study discusses this new phenomenon in the reality of local e-government, and looks forward to its applicability and feasibility for other regions in the world.

6. The originality of the research

The originality of this research is that it is the first study to provide a public marketing perspective that focuses on the citizens' behaviours towards e-government services. As the previous section revealed, the vast majority of e-government research regarding users' behaviours has concentrated on the cognitive analysis and technical acceptance theory. This tendency has neglected the influence of governments' positive actions. Even though existing studies have shown how citizens behave when they experience psychological fluctuation, these studies still hardly help governments to establish policy directly for the public. As a systematic investigation into the levels of promotional activities and their influences on citizens' behaviours, this study aims to go deep into the management view, in contrast to examining technical influences.

Second, this study aims to assess e-government promotion from both a theoretical and a practical side. To this end, factors have been derived from a broad scope of literature such as promotion in public marketing strategy, and citizens' behaviours in the technology acceptance and behavioural action models applied in the e-government area. Though several studies have reported how the governmental sectors draw on campaigns to increase citizens' awareness of e-services, comprehensive discussion is lacking regarding theoretical foundation for the design and implementation of

promotion in the e-government area. Furthermore, to evaluate promotional activities, empirical observation should be carried out to examine how target groups react to these activities. With a focus on e-government promotion, the present study looks at these issues from both its basic definition and pragmatic operation.

Lastly, this thesis pays attention to e-government promotion with the latest emerging e-government service platforms under the public-private collaboration, in the case of a Chinese municipality. The study not only emphasises the integration of public and private e-services on SNS platforms, but also examines mobile utilisation in multiple channels. Although many e-governments still rely on governmental websites, changes in internet users' habits from using web-based portals to mobile-oriented applications have led to the rise of mobile government (m-government). M-government is known as 'a strategy implemented by the government to provide information and services to the government employees, citizens and other organizations through mobile devices' (Lee, Tan, and Trimi 2006). Regarding penetration rate, the mobile market dominates. For instance, according to eMarketer (2016), there were 4.3 billion mobile phone users in 2016, and this number will climb to 4.78 billion in 2020 worldwide, representing 62.6% of the population (eMarketer 2016). This high usage rate may lay to a favourable foundation for m-government implementation, as well as an advantage for promoting e-government service platforms on mobile platforms.

7. Dissertation structure

The rest of the thesis is structured as follows. Chapter 2 presents the literature review, which examines the previous studies related to the topic. It begins with an overview of e-government studies, including the definition and categorisation of e-government proposed by scholars. Subsequently, the chapter examines recent debates on traditional e-government applications and m-government as a background for the latest e-government practices in the digital era. The next section serves as the theoretical preparation for further analysis in this dissertation, by examining factors

of citizens' behaviours towards e-government services. Explanatory variables regarding promotional outcomes are identified in accordance with citizens' behaviours that have been observed in the literature on the technical acceptance model and e-government studies. Then, the following section reviews marketing strategy in the public sector, which provides a theoretical foundation for the key issue in this thesis: e-government promotion. This section explores the background and needs to introduce marketing theory in the public sector, followed by the practice of promotion of e-government projects. Section 4 provides an overview of e-government development in China; a brief introduction of the history of e-government initiatives in China indicates some major segments in Chinese e-government. E-government areas have been observed in different authorities. Lastly, the details of public-private collaborative e-service platforms on WeChat and Weibo are presented to provide background information on the case study examined in this dissertation.

Based on the literature review, Chapter 3 introduced the research approach, including research design, methods and the status of local e-government in Chongqing – where is selected as the case of this thesis. An exploratory design of mixed research methods is explained, followed by research methods. As multivariate research methods have been adopted in this dissertation, both the qualitative and quantitative analytical techniques are explained. In addition, the status of local e-government development in Chongqing is presented as the background introduction of the case study.

Chapter 4 demonstrates the procedure and results of research phase 1, qualitative analysis. Section 2 presents how pilot-survey is conducted and analysed for further step. Section 3 and 4 elaborate the process and results of in-depth interviews that divided into two parts: advanced e-government area and china. Section 5 summaries all the findings from in-depth interviews. Lastly, section 6 presents the conceptual framework and proposed model of e-government promotion with hypotheses.

Chapter 5 focuses on justifying proposed models with quantitative techniques, in the case of Chongqing local e-government. After the introduction of sample method,

descriptive analysis of awareness/adoption rates and demographic factors is presented. Section 4 accounts for exploratory factor analysis (EFA) and section 5 explains the research results of Partial Least Square-Structural Equation Modelling and hypothesis testing.

Chapter 6 summarizes the conclusion of this study. It firstly presents the resolution that corresponding to research questions. Research outcomes in section 2 reports both theoretical contribution and practical implications. Subsequently, recommendations for Chinese government in e-government development and promotion are stated. The research limitation and opportunity for future research are concluded at last.

Chapter 2 Literature Review

1. Introduction

This chapter reviews the existing literature. Suggestions and limitations of these works are acknowledged to develop a theoretical foundation for the present study.

The chapter begins with the explanation of basic concepts of e-government. An overview of e-government, including the definitions and category of e-government, G2C e-service delivery at local government, citizens' behaviors towards e-services and Mobile/SNS utilization in e-government. Section 2 reviews public marketing strategy and its application, highlighting public marketing and public promotion, as well as the current references of e-government promotion. Section 3 provides a review of Chinese e-government such as discussion regarding e-government areas in different levels of administration, and public-private collaborative e-service platforms. The last section concludes with the main findings from literature review, to examine research gaps and draw out the rationale of this research.

2. An overview of e-government

2.1 Definition of e-government

E-government implementation has been cultivated over the last 20 years, since the former U.S. Vice-President Al Gore coined the famous term 'information superhighway', which was considered the beginning of high-speed network infrastructure construction in 1993. Major discussions regarding e-government started in the 1990s, together with the introduction of the World Wide Web (WWW). Before that, IT use in government was primarily internal and managerial (Ho, 2002). In the decades of its development, e-government has been defined and discussed by a great deal of well-known international organisations and scholars. In general, this phenomenon is not about putting in a few computers or building a website for information access, but about transforming the fundamental relationship between the

government and the public (Pardo 2000). However, e-government initially began with technical changes in the government. It is indeed a dynamic mixture of goals, structures, and functions (Pardo 2000), whose scale has been extended by new concepts such as transparency, accountability, citizen participation in the evaluation of government performance, and changes in political practices, such as e-democracy and e-governance (Mohammad, Almarabeh, and Ali 2009).

As the most famous international agency that conducts the largest range of surveys on e-government every two years, in 2001 the United Nations (UN) defined e-government as 'utilizing the internet and the world-wide-web for delivering government information and services to citizens' (Ronaghan 2002). Two years later, the Economic Co-operation and Development (OECD) e-government task force of the public governance and territorial development directorate defined e-government as 'the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government' (Field et al. 2003). In 2014, the OECD updated the term e-government to 'digital government', indicating that it 'refers to the use of digital technologies, as an integrated part of governments' modernisation strategies, to create public value'. The OECD report recommends that digital government should include the following four dimensions:

- (1) *Ensure greater transparency, openness, and inclusiveness of government processes and operations;*
- (2) *Encourage engagement and participation of public, private, and civil society stakeholders in policy making and public service design and delivery;*
- (3) *Create a data-driven culture in the public sector; and*
- (4) *Reflect a risk management approach to addressing digital security and privacy issues, and include the adoption of effective and appropriate security measures, so as to increase confidence in government services. (OECD 2014)*

This explanation expands the definition of e-government into detailed segments which contain the progress of practice and new social values such as data-driven culture, public engagement, and digital security.

Other organisations have their definitions of e-government as well, which differ in their emphasis on different points. The World Bank defines e-government as 'the use by government agencies of information technologies (such as Wide Area Networks, the internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. In a like manner, different ends can be met through ICT, including 'better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment and more efficient government management' (WorldBank 2015).

Furthermore, the European Commission defines e-government as 'the use of information and communication technologies, combined with organizational change and new skills, to improve public services, increase democratic participation and enhance public policy making' (European 2005). According to the European Union (EU), the essence of e-government is about 'using technology to make public service better, cheaper and faster; for society and for the good of public administrations' (TINHOLT et al. 2014).

Despite international organisations' various definitions of e-government, to which scholars have contributed as well, there is still no universal definition. Nonetheless, consensus may be reached regarding some mutual features of e-government, such as the use of ICT in the governmental section to improve public services delivery; the revolution of the interaction process between government and society; and facilitated public values such as transparency, democracy, and innovation.

Based on their review of the literature, Wirtz and Daiser (2015) define e-government as 'the electronic handling of administration and democracy processes in the context of governmental activities by means of information and communication technologies to support public duties efficiently and effectively' (Wirtz and Daiser 2015). They also sort out the range differences of e-government definitions into the following matrix.

	Minimum Range	Maximum range
Scope	Information and service delivery	Enabler for e-democracy
Subject	Citizen	All public-sector stakeholders
Technology	Computer and web presence	Internet

Table 2-1. Range differences of e-government definitions⁵

2.2 Categories of e-government

There are different kinds of interactions in the implementation process of e-government, depending on the objects at both ends of the communicative channel. Hiller and Bélanger (2001) illustrate the convergence of e-government stages and categories of relationships between the government and its constituents in their electronic government framework, shown in table 2-2:

	Stages of e-government				
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Type of government	Information	Two-way communication	Transaction	Integration	Political Participation
Government to individual-service	Description of medical benefits	Request and receive individual benefit information	Pay taxes online	All services and entitlements	N/A
Government to individual Political	Dates of elections	Receive election forms	Receive election funds and disbursements	Register and vote. Federal, state and local (file)	Voting online
Government to Business-citizen	Regulations online	SEC filings	Pay taxes online Receiving program funds (SBA, etc.) Agricultural allotments	All regulatory information on one site	Voting online
Government to Business Marketplace	Posting Request for Proposals (RFP's)	Request clarifications or specs	Online vouchers and payments	Marketplace for vendors	N/A
Government to Employees	Pay dates, holiday information	Requests for employment benefit statements	Electronic pay-checks	One-stop job, grade, vacation time, retirement information, etc	N/A
Government to Government	Agency filing requirements	Requests from local governments	Electronic funds transfers		N/A

Table 2-2. Electronic Government Framework with examples⁶

In this framework, a government faces four types of audience, including itself,

⁵ Source: Reproduced based on Wirtz and Daiser (2015).

⁶ Source: Reproduced based on Hiller and Bélanger(2001).

since interaction also exists between different departments in the internal process. In the meantime, individuals receive enhanced public services from the government, as well as political access to the authority via electronic ways. The remaining audiences are businesses and employees. Similarly, in 2002, the Office of Management and Budget (OMB) in the US published an 'e-government strategy', which proposed four groups that provide opportunities to transform delivery of services:

- (1) *Individuals/citizens – government-to-citizens (G2C): Build easy-to-find, easy-to-use, one-stop points-of-service that make it easy for citizens to access high-quality government services.*
- (2) *Businesses – government-to-business (G2B): Reduce the government's burden on businesses by eliminating redundant collection of data and better leveraging e-business technologies for communication.*
- (3) *Intergovernmental – government-to-government (G2G): Make it easier for states and localities to meet reporting requirements and participate as full partners with the federal government in citizen services while enabling better performance measurement, especially for grants. Other levels of government will see significant administrative savings and will be able to improve program delivery because more accurate data will be available in a timely fashion.*
- (4) *Intra-governmental – internal efficiency and effectiveness (IEE): Make better use of modern technology to reduce costs and improve quality of federal government agency administration, by using industry best practices in areas such as supply-chain management, financial management, and knowledge management. (OMB 2002)*

In 2006, Bélanger and Hiller improved their categorisation of e-government into six segments: (1) government with individuals - delivering service (GwIS), in which the government establishes or maintains a direct relationship with citizens to deliver a service or benefit; (2) government with individuals – political process (GwIP), which is a relationship between the government and its citizens as part of the democratic process (IT is perhaps the most essential element in the relationship between a government and any entity); (3) government with businesses as citizens (GwBC), in

which businesses still have opportunities to relate to the government in a citizen-like capacity; (4) government with businesses in the marketplace (GwBMKT), representing the major portion of online transactions between governments and businesses; (5) government with employees (GwE), which entails online relationships between government agencies and their employees; and (6) government with government (GwG), whereby government agencies collaborate and/or provide services to one another (Belanger and Hiller 2006). This classification of e-government combines the target objects and type of services in which the government contacts each group with relevant operations.

Siau and Long (2009) reorganised the structure of the e-government categorisation into an illustrated four-quadrant diagram. This diagram (table 2-3) uses the classification made by the US office, simplifying the portfolios into four objects: government to customers (G2C), government to business (G2B), government to employee (G2E), and government to government (G2G).

External	G2C	G2B
Internal	G2E	G2G
	Individual	Organization

Table 2-3. E-government dimensions⁷

According to Siau and Long, G2C and G2B reflect external interactions between the government and citizens and businesses, while G2E and G2G represent internal connections whereby the government contacts its employee and other departments. From the perspective of personal differences, G2C and G2E are the channels linking government and individuals, while G2B and G2G refer to the communication between organisations. Siau and Long's category of e-government has simplified the partition of major areas in e-process. It is well accepted by most scholars so far for understanding the differences of e-government portfolios.

⁷ Source: Reproduced based on Siau and Long (2009).

2.2.1 Government to government (G2G)

The US e-government initiatives broadly define G2G as ‘new partnerships among levels of government. These partnerships facilitate collaboration between levels of government, and empower state and local governments to deliver citizen services more effectively’ (Iyer et al. 2005). G2G systems are the types of e-government operations that support relationships between different structures of government. They help to share some basic information among different governmental bodies, which avoids parallel data collection and reduces costs (Khoja 2004; Haque, Memon, and Shaikh 2013). Although the earliest trial of e-government started in the internal section for the purpose of administrative reform, much less attention is paid to the G2G approach nowadays. While G2G programs may be internal to governments, such as in financial management, they also comprise the underlying fabric of most programs that serve citizens and businesses (Dawes 2007).

Government departments must ensure that internal processes are developed to manage the flow of paper-based correspondence, contracts, or application submissions (McKinnon 2006). G2G integration requires cooperation between different public departments and various degrees of ICT interoperability, and it will deliver technologies for distributed and remote data for internal use in analysis and planning as well as for external communications (Maluf and Bell 2005).

Heni et al. (2011) propose a conceptual model to explain the factors influencing the G2G governance relationship. The model contains 26 categories, in which the first level of coordination involves three subcategories: local, regional, and national coordination. The coordination is supported by a collaborative process between government agencies that depend on new ICT (Hamza et al. 2011). G2G is not only responsible for the internal process via ICT that can bring efficiency and effectiveness to the progress of work; it can also be regarded as a prerequisite for other e-government areas, such as G2C and G2B (Hamza et al. 2011).

2.2.2 Government to business (G2B)

G2B denotes the exchange between governments and commercial or non-profit

enterprises. The transactions of G2B are often multi-level processes that involve multi-disciplinary functions and multiple transactions that are often contingent upon one another (Awan 2008). The operations of G2B contain various services exchanged between the government and the business sectors, including distribution of policies, memos, rules, and regulations (Ntulo and Otike 2013). The opportunity that G2B brings to conduct online transactions with the government reduces red tape and simplifies regulatory processes, thus helping businesses to become more competitive (Anandkumar, Bojjagani, and Saravanan 2013). The types of G2B vary in administrations that have their own plans for service delivery, such as e-taxation, obtaining licenses, payment of bills and taxes, complaints/dissatisfaction, rejection and approval of patents, and so on (Pathak and Kaur 2014).

The G2B process is beneficial to both government departments and business sectors. For the public authority, the traditional government procurement process has been radically re-engineered and replaced by network-enabled facilities or counterparts of e-procurement systems (Dunt and Harper 2002; Else 2002; Bakry 2004; Kwok 2014). On the other hand, the business sector perceives the emerging opportunities of using G2B electronic services not as an alternative way of doing procurement with public agencies, but as a way of securing more government business opportunities. Hence, the G2B process could enable businesses to have new and direct relationships not only with government organisations, but also with other market participants to be more competitive (Kwok 2014). Overall, businesses can adopt G2B based on their need for use and propensity to embrace changes in the digital era (Gorla and Chiravuri 2016).

In the field of e-government research, G2B has received limited attention compared to the importance attached to G2C (Joseph 2009). However, while the whole e-government sector significantly affects the digital economy, G2B has major implications beyond G2C, as it fundamentally changes the interactions between businesses and government (Awan 2008). Furthermore, G2B has the potential to contribute to anti-corruption value due to the transparent process of e-government

applications.

2.2.3 Government to employees (G2E)

In contrast to internal interaction between organisations, G2E concerns the online relationship between government bodies and their employees (Huang and Bwoma 2003), which is sometimes called 'intra-government' (IEE) (Evans and Yen 2006). Many specialised services in terms of internal staff issues are covered under the umbrella of G2E, such as the online services of payroll, tax information, the provision of human resource training and development that improve the bureaucracy's day-to-day functions (Rao 2011); calculation of retirement benefits, access to applications, content and collaboration with other government employees anytime, anywhere (Palvia and Sharma 2007); budget and finance, administration, procurement and store management, e-learning, messaging, and workflow and project management (Chanana 2007). In short, according to the above classification of e-government categories, G2E comprises the internally focused utilisation of ICT to manage organisational resources—capital, human, material, and machines—and to administer policies and procedures (Palvia and Sharma 2007) in the connection between government organisations and individuals in the back office.

The channel connects employees and governmental organisations, both of which have different objectives. As users of this system, employees try to create government employee values, while the organisation wants to have an organisation value (Yu 2008). Some scholars claim that G2E should be regarded as a part of G2G, as a subset of the G2G operation mainly focusing on intra-agency activities that should not be addressed separately (Seifert and Bonham 2003; Realini 2004), because G2G activities cover the interactions and information exchange between government institutions and their employees (Balezentis and Parazinskaite 2012). On the other hand, it is recognised in the widely accepted four-quadrant division in figure 2-2 that G2E has its own purposes of meeting individual needs in the internal workflow. According to Golubeva and Merkuruyeva (2006), G2E represents the different forms of electronic administration (e-

administration) that increase the efficiency of a public agency's internal performance (Golubeva and Merkuryeva 2006). Despite its definition, positioning G2E remains controversial.

A benefit of G2E is that it allows a government to interact with its employees more effectively, which enhances productivity and human resources management (McClure 2001). Other advantages of G2E are the following:

- (1) *greater potential to share workloads, access to the same data, reduce duplication of effort and cost associated;*
- (2) *real time information and efficient retrieval of data when dealing with information requests;*
- (3) *fast redirect of common enquiries and information requests to relevant answers;*
- (4) *alignment of processes and technology enabling training to be shared and economies of scale to be achieved;*
- (5) *data storage access and retrieval of information assists compliance with legislation and improves audit trail/reduces corruption;*
- (6) *improved system providing more balanced workflow and better information retrieval improving staff satisfaction and retention (Ronaghan 2002; Rao 2011).*

Moreover, G2E can be conducive to other areas of e-government. For example, a G2E solution can empower government employees to support citizens in a much better and faster way, accelerating administrative processes (Rao 2011). In this way, G2E provides a solid foundation for G2C and G2B in the front office. The transactions and interactions in G2G can benefit from the integration, leading to increased internal effectiveness and efficiency of G2E as well (Scholl and Klischewski 2007).

However, although G2E provides a basis for other e-government applications, it has attracted much less empirical research than G2B and G2C. G2G and G2E have been reported to remain grossly understudied in current e-government research, which may suffer from the 'iceberg phenomenon': The Internal Effectiveness and Efficiency (IEE) is missed (Scholl 2005).

At the moment, although there is still a lack of information and deep understanding of G2E and IEE because of narrower investigations (Balezentis and Parazinskaite 2012), G2E still has a fundamental role in the whole e-government structure, as it serves as the back pillars.

2.2.4 Government to citizen/customer (G2C)

G2C is considered to be the main sector of service delivery in e-government, and deals with the relationship between government and citizens (Anandkumar, Bojjagani, and Saravanan). The majority of government services are found under this category (Hirwade 2010). This design to facilitate citizen interaction with the government online is what some industry observers perceive to be the primary goal of e-government (Yong 2004). If e-government initiatives serve different layers of processes, then the G2C component forms the 'bottom of the pyramid' to achieve social inclusion in the country (Moni 2011). It offers online non-commercial interaction involving different levels of administration (central and local government) and private individuals outside of government (Sarpoulaki, Eslami Rad, and Saleknia 2008). Many federal governments around the world have established national G2C services, such as USAgov (FirstGov), GovUK (DirectGov), and CanadaGov, among others. At the regional level, G2C applications with more local features are provided to satisfy the specific needs of local residents. Though nowadays national portals are empowered to create access for citizens, G2C practice are more often examined and discussed at the local e-government level (Seifert 2003). For example, Norris et al. (2001) examined 3,749 local e-governments to see whether their G2C applications met the needs of citizens (Norris, Fletcher, and Holden 2001). Furthermore, DeBenedictis et al. (2002) argued that while G2C receives a great deal of press attention, most of the interaction between government and citizens occurs at the local level (DeBenedictis et al. 2002).

In the early stage, G2C solutions emphasised the construction of a 'front office', as a front desk is the first and most important window confronting customers. When e-government started to enter the public service area, citizens found that they now had

more options to find public organisations (figure 2-5). Governments' online portals have become synonymous of e-government service, in contrast to offline service centres.

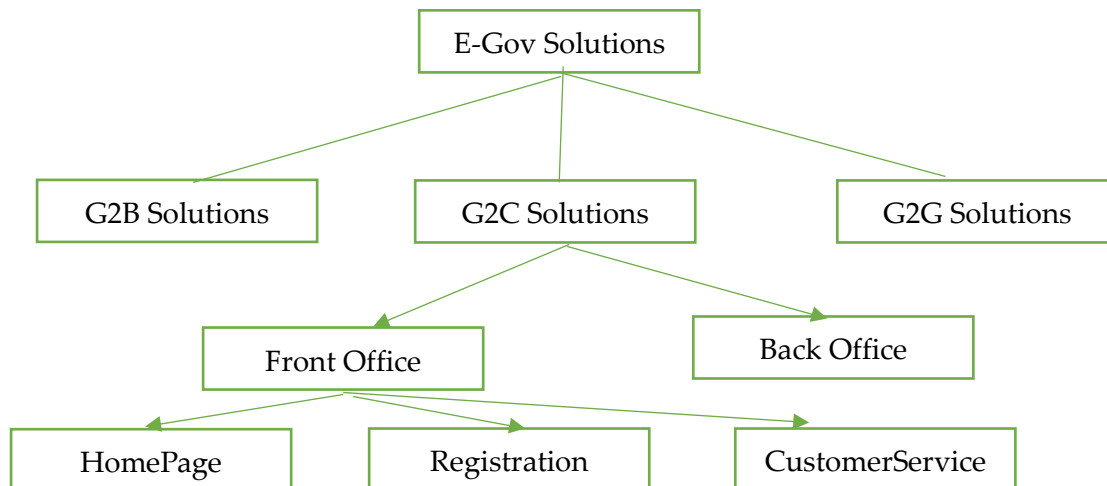


Figure 2-1. G2C partial feature model⁸

While the internet provides the connection for e-government services, scholars have noted the difficulty for some groups of citizens to reach e-access due to obstacles covering inadequate infrastructure, low PC penetration, less-than-widespread use of the internet, varying literacy levels, and physical constraints of certain demographic groups such as elderly and disabled people (Yong 2004). Thus, to be more practical in reaching most citizen groups, G2C initiatives should be conceived with a balanced selection of multiple channels of access (Yong 2004).

Some of the channels are still showing their unique strength to this day. For example, the case of the Macau e-government providing many information kiosks throughout the city has been reported as a success for its convenience (GIB 2017). These self-service kiosks offer citizens a quick way to obtain certification documents and identification services instead of going to the government front office. Seven kinds of self-service kiosks of the Identification Services Bureau were set up in avenues and alleys of Macau in 2017 and some are open 24 hours a day, seven days a week.

Besides, other departments of the government of Macau have launched different

⁸ Source: Reproduced based on Debnath et al. (2008)

self-service kiosks based on their administrative processing, such as printing health care vouchers from the health bureau; registering for proof of existence from the social welfare bureau; enquiry and application for social security funding; inquiry about professional tax information from the finance services bureau; wealth partaking scheme distribution enquiry; self-service application for a certificate of personal movement record for the public security police force; and voter registration and account for public service from the public administration and civil service bureau (govmo 2017b). Recently, multi-electronic payment was added to the system so that citizens can simply pay the application fee with UnionPay (an interbank network service in mainland China), QuickPass, and Macau Pass, with the existing payment using credit and debit cards. These Macau self-service kiosks reveal the importance of physical equipment, because different demographic groups may not be sufficiently IT literate to use e-services online. The use of multiple channels can guarantee service delivery to the broadest range of citizens, who may have different requirements and conditions. Furthermore, the literature suggests that citizens continue to rely upon traditional, offline channels to communicate with the government, with the majority preferring the telephone (Touche 2005; Kolsaker and Lee-Kelley 2007).

The primary focus of G2C applications is to facilitate instant and convenient access to government information and services for citizens anywhere and at any time online (Alshehri and Drew 2010; Dorji 2012). As technologies and the culture of public management evolve, more and more services are being implemented into e-platforms. According to the Waseda-IAC International e-Government Ranking survey⁹, e-procurement, e-tax systems, e-custom systems, e-health systems, and one-stop services have been adopted as sub-indicators for online service, while national portals are separately estimated as one of the main indicators (Waseda 2017). The increasing capacity of G2C solutions has upgraded the services from simple information publication to limited interaction (downloading of forms), two-way interaction (processing of forms), and full transaction (case handling, including decision and

⁹ Waseda-IAC International e-government ranking is a global survey held by the Institute of Digital Government at Waseda University and International Academy of CIO (IAC) since 2005,

delivery) (Pappa and Stergioulas 2006). Moreover, as ICT has enriched citizens' engagement in public affairs, the concept of e-participation has come into the world of e-government. It has been defined as 'the process of engaging citizens through ICTs in policy, decision-making, and service design and delivery in order to make it participatory, inclusive, and deliberative' (Panel 2013; UN 2016). Both the UN and the Waseda e-government surveys have incorporated e-participation into the evaluation system. The UN takes the e-participation index as a supplementary index which aims to extend the survey. The index combines three dimensions, as shown below in table 2-4. Though it is still an evolving concept, e-participation has increased the possibilities for citizens to engage in public issues.

E-Participation Framework
E-information: Enabling participation by providing citizens with public information and access to information without or upon demand
E-consultation: Engaging citizens in contributions to and deliberation on public policies and services
E-decision-making: Empowering citizens through co-design of policy options and co-production of service components and delivery modalities

Table 2-4. E-participation framework in UN e-government survey¹⁰

2.3 G2C e-service delivery at local e-government

As there are different levels of administrations exist in a country, e-government can be also classified into layers. Heeks (2006)'s category explains e-government's five levels as international, national, regional, state/provincial and local (Heeks 2006) Although the interactions between government and other sectors (business, citizen) lie in almost all the layers of e-government, the G2C service-delivery is usually placed at local level. This can be tracked from the definitions, as local e-government is

¹⁰ Source: Reproduced based on UN (2016)

considered to be “information, services, or transactions that local governments provide online to citizens using the Internet and Web sites (Yigitcanlar and Gudes 2008; Yigitcanlar and Velibeyoglu 2009). Rahman (2009) advocates the implementation of local e-government can enhance citizen engagement and participation for better service delivery (Rahman 2009). In local e-government, citizen becomes the most important “customer” as G2C usually refers to the e-procedure of individual’s daily life, which often locates at the grassroot instead of higher administration. The local government is closest to and delivering the greatest number of service directly to citizens (Norris and Moon 2005). National government as the main director for the welfare of whole country is unlikely to understand the needs of communities in the same way as local government (Shackleton, Fisher, and Dawson 2004b). Local officials are also closer to a more narrowed audience to understand their needs, which is a vital factor for designing satisfied e-service to citizens (Edmiston 2003). Global statistics have confirmed this fact, it was reported in 2002 that 80% of the government transactions with individuals is dealt with at local level (IDeA 2002). In 2005, a report stated that between one-half and fourth-fifths of government contacts are at sub-national level in industrialized countries (Horrihan 2005).

Another reason about why G2C e-service delivery at local level may be considered as that local government would be more innovative in reforming e-government than higher administration owing to lower barriers to its change (Paquet and Roy 2000). Local government is more flexible to adopt new technology and application for the local-based e-service, and citizens’ feedback can be reflected in the changing process promptly. For instance, the utilization of social media is reported to be more actively at local e-government section, while the SNS tools have helped providing more innovative mechanism for service delivery (Bonsón et al. 2012). Therefore, local e-government becomes a suitable place for testing G2C innovation, whether in technological or managerial aspect. Having more opportunities to access to citizens also enables local e-government to encourage citizens to participate in the public matters easier, as it is reported that citizen participation or e-democracy was officially

aimed by local e-government in the United States (Norris and Reddick 2013).

Based on the discussion above, the fact that G2C e-service delivery is mainly implemented and innovated in local e-government reconfirms local e-government to be target of this research. As promotion for G2C, by its very nature, is a communication process between government and citizen, a study of local e-government provides the closest observation of e-government promotion.

2.4 Citizens' behaviours towards e-services

While G2C solutions are considered to be the cornerstone of e-government service (Nkomo 2012), academia and e-government practitioners have drawn attention to citizens' behaviours towards these services. This is not only because of the citizen-centricity in the philosophy of e-government, but also due to the reality that citizens play the core role of the G2C system: they are users/customers who are being served with advanced e-services, so their feelings and reactions need to be rightfully considered. Furthermore, e-participation initiatives have begun to arouse citizens' enthusiasm in re-producing information and values, as well as influencing decision-making paths. In this sense, citizens have multiple roles in the operation of e-government: they are both receivers and producers. A citizen-oriented approach may even require a culture shift in government, or a change in the system of public service delivery (Bertot, Jaeger, and McClure 2008).

Many previous studies have concentrated on how citizens behave towards e-government, going as far back as citizens' awareness of e-government services. This section summarises the literatures on citizens' behavioural factors regarding e-services; this is divided into two parts to reflect two perspectives.

2.4.1 Citizens' behaviours towards e-services via the technology acceptance and behavioural action models

With e-government, citizens have faced two kinds of changes: a culture shift in their communication with the government; and the necessity of adopting emerging

technology. The policy-oriented study is usually used to identify organisational and political factors influencing e-government development. For example, the technology-organisation-environment framework (TOE) has helped many researchers understand how the organisational and environmental contexts affect decisions regarding new e-government applications (Pudjianto et al. 2011; Yang 2016). Besides technical influences, linking structure, communication processes, size, and slack in the organisation and environment sectors containing industry characteristics and market structure, support infrastructure and government regulation act on the 'technological innovation decision-making' (Tornatzky, Fleischer, and Chakrabarti 1990; Baker 2012). However, in the operation of G2C service, there is more uncertainty regarding the adoption of individuals than that of organisations. Researchers have to find better theories to explain citizens' acceptance when it comes to the G2C service platforms.

E-government research has looked for clues from information system, psychology, sociology, and so on. Among these attempts, several theories have achieved prominence in predicting user adoption rates and identifying their determinants. These are presented below.

2.4.1.1. Theory of reasoned action (TRA)

The theory of reasoned action (TRA) is a classic model created in 1967 and explained in more detail by Martin Fishbein and Icek Ajzen in 1975 (Fishbein 1967; Fishbein and Ajzen 1975). The TRA was developed to explain how individuals' behaviour is determined by intention, which is influenced by their pre-existing attitudes (figure 2-10). It has been widely used in predicting individuals' actions in the context of communication, marketing, and social action.

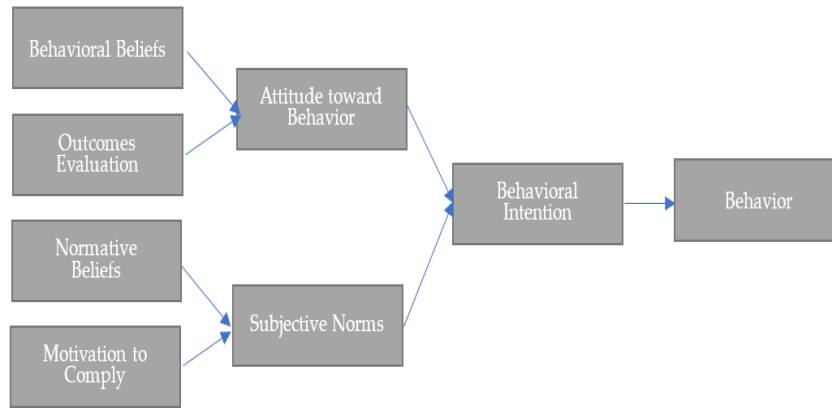


Figure 2-2. Reasoned action theory¹¹

According to the TRA, an individual's behaviour is decided by behaviour intention (BI), a key variable representing the whole model. A person's attitude (A) and subjective norms (SA) are the two determinants of BI. A person's attitude is explained by his or her salient beliefs about the results of performing the behaviour, multiplied by the evaluation of those results; SN is represented by a multiplicative function of his or her normative beliefs and motivation to comply with these expectations or beliefs (Lean et al. 2009). In the context of G2C in e-government, some researches regard citizens' intention to use e-service and actual adoption as BI and Behavior derived from TRA model (Al-Adawi, Yousafzai, and Pallister 2005; Rashid and Othman 2017). In this theory, citizens' behaviours towards e-government services are identified as 'intention' and 'adoption'.

2.4.1.2 Planned behaviour theory (TPB)

After collaborating with Martin Fishbein on the TRA, Icek Ajzen proposed the planned behaviour theory in 1991 to improve the predictive power of the TRA (Ajzen 1991). He added 'perceived behaviour control' into the model to explain how peoples' actions are determined by their intentions and their perceptions of control, whereas their intentions are influenced by attitudes towards behaviour, subjective norms, and

¹¹ Source: Reproduced based on Fishbein and Ajzen (1975)

perceptions of behavioural control (Hung, Chang, and Yu 2006).

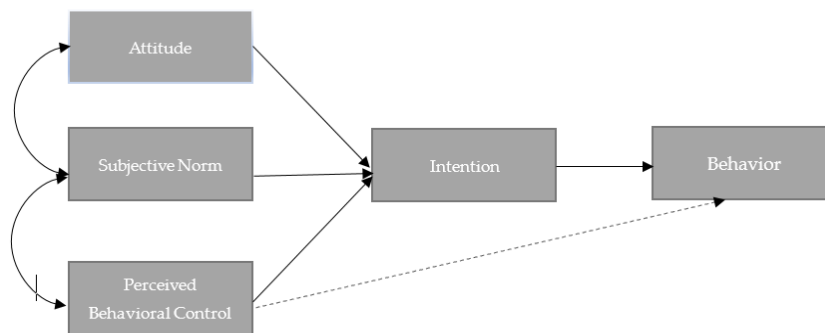


Figure 2-3. Theory of planned behaviour¹²

According to the TPB (figure 2-3), users' intentions and behaviours are realised in the context of e-government applications, which refer to citizens' behavioural intention to use the e-government applications and their actual use of e-services.

2.4.1.3 Technology acceptance model (TAM)

The technology acceptance model (TAM) was first proposed by Davis in 1985 and improved in 1989 to predict how users will react to a new technology (Davis 1985; Davis, Bagozzi, and Warshaw 1989). This famous theory originated from the TRA and simplified the factors representing attitude and motivation into several determinants.

In the first version of TAM (figure-2-4), actual system use was still determined by the behavioural intention to use, as suggested by the TRA. The innovative part of the TAM is its suggestion of perceived usefulness (PU) and perceived ease of use (PEOU) of ICT as determinants of attitude. PU is defined as the degree to which a person believes that using a particular system will enhance his or her job performance, while PEOU is defined as the degree to which a person believes that using a particular

¹² Source: Reproduced based on Ajzen (1991)

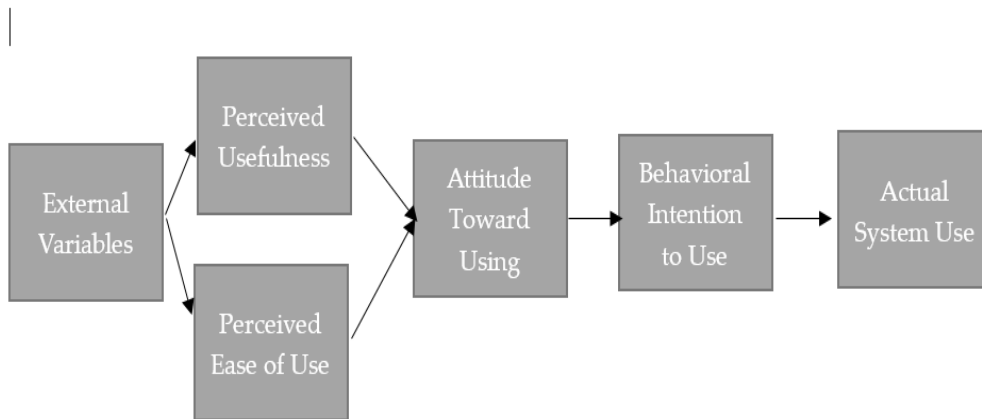


Figure 2-4. The first modified version of TAM¹³

system will be free of effort (Weerakkody et al. 2013). Massive studies exploring e-government service adoption have used these two factors in their predictions. In the TAM, citizens' behaviours towards e-government services are identified as 'intention to use' and 'actual use (adoption)', similar to the explanation of the TRA.

2.4.1.4 Model of PC utilisation (MPCU)

Thompson et al. (1991) proposed the model of PC utilisation (MPCU) in 1991 to predict the utilisation of PCs based on Triandis's theory (1979) in an information system context (Triandis 1979; Thompson, Higgins, and Howell 1991). The model suggests that six determinants of technology acceptance have an impact on PC utilisation: job fit, complexity, long-term consequences, affect towards use, social factor, and facilitating conditions (Alomary and Woollard 2015).

The MPCU links the determinants of intention directly to the behavioural decision, unlike other technology acceptance models. Actual adoption of a computer is identified as the unique dependent variable in the MPCU.

¹³ Source: Reproduced based on Davis, Bagozzi, and Warshaw (1989).

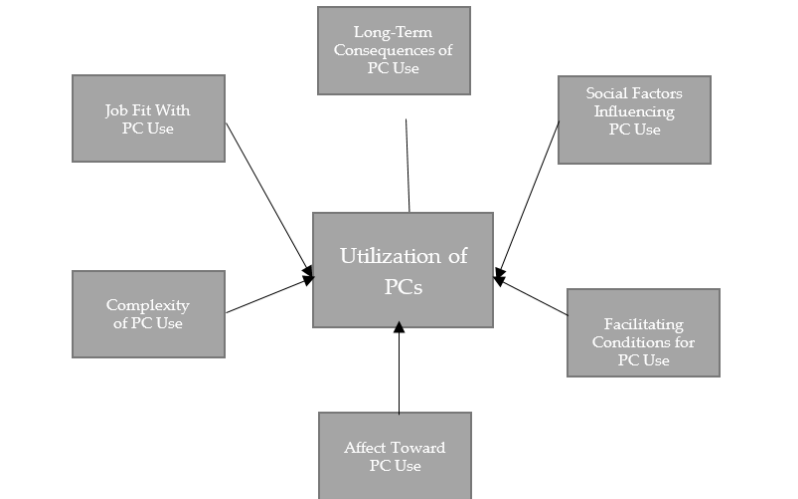


Figure 2-5. Model of PC utilisation (MPCU)¹⁴

2.4.1.5 Combination of the TAM-TPB model (C-TAM-TPB)

Taylor and Todd (1995) proposed an integrative model combining the TAM and TPB in 1995L the C-TAM-TPB model (Taylor and Todd 1995). They replaced predictors of attitude in the TPB with the variables in the TAM, PU and PEOU. Moreover, they incorporated social influences and behavioural control in the TAM so that the whole model can be applied to predict the behaviour of both experienced and inexperienced users of IT (Lean et al. 2009). It should be noted about the C-TAM-TPB model that the

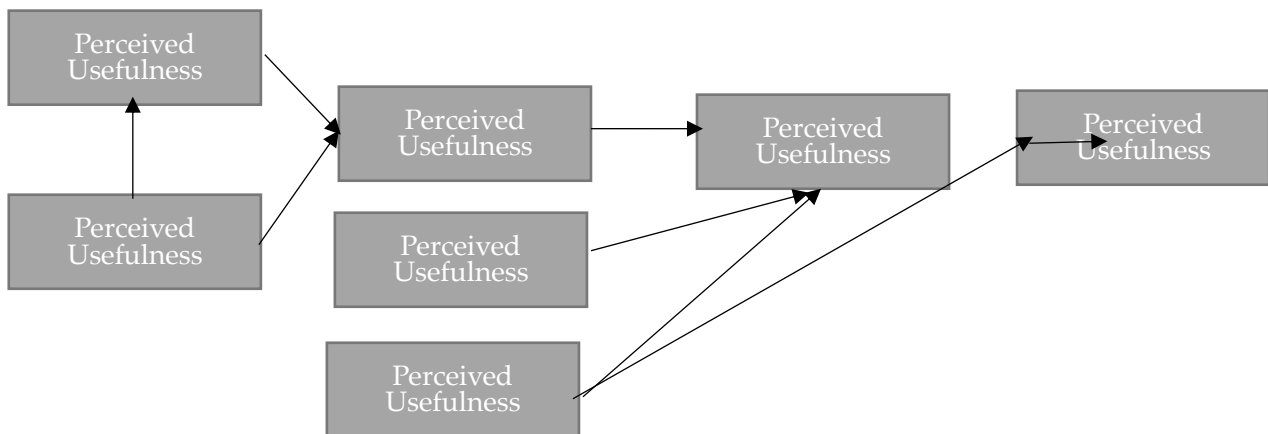


Figure 2-6. Combination model of the TAM and TPB¹⁵

¹⁴ Source: Reproduced based on Thompson, Higgins, and Howell (1991)

¹⁵ Source: Reproduced based on Taylor and Todd (1995)

direct influence of perceived behaviour control on actual use was mentioned together with its indirect effect via intention (figure 2-6).

2.4.1.6 Unified theory of acceptance and use of technology (UTAUT)

The unified theory of acceptance and use of technology (UTAUT) was developed by Venkatesh et al. in 2003. It is an integrated model that brings together alternative views on user and innovation acceptance (Venkatesh et al. 2003), and draws on hints from previous technology acceptance and cognitive theory such as the TRA, TPB, MPCU, TAM, and C-TAM-TPB. It is one of the latest achievements in the studies of technology acceptance, and is considered an enhanced model with parsimonious and robust characteristics that can better explain the factors influencing individuals' intention and usage (Lean et al. 2009). There are four core determinants of usage behaviour: performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). Moreover, the UTAUT posits the effect of four moderator variables, age, gender, experience, and voluntariness of use, on specific predictors (figure 2-7).

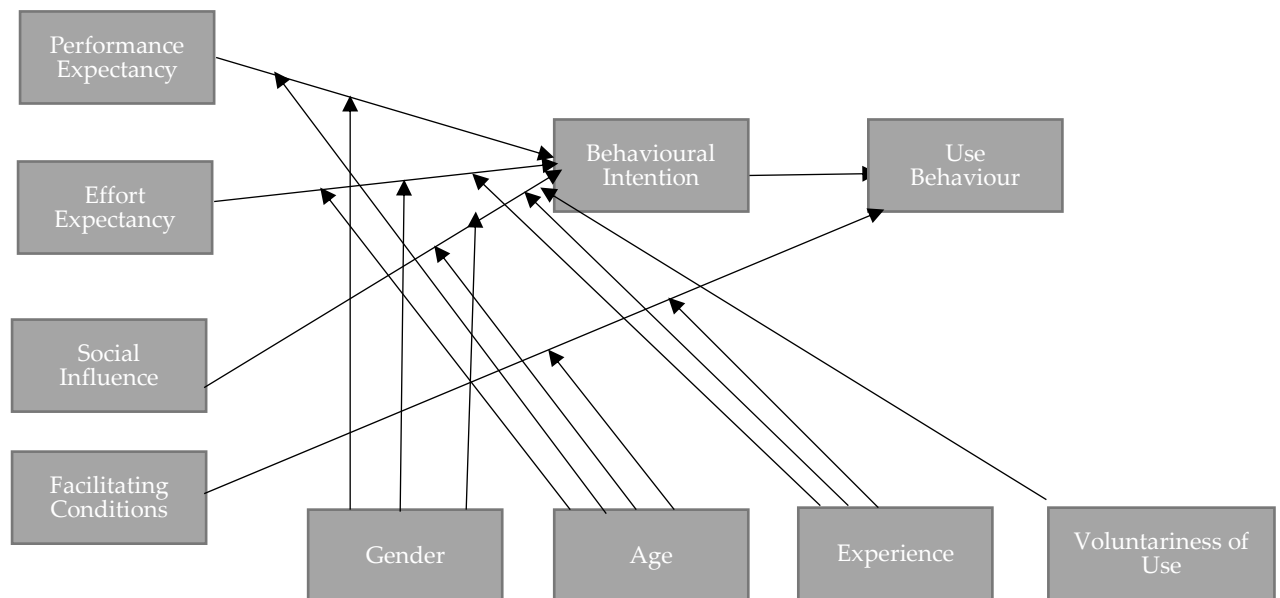


Figure 2-7. Unified theory of acceptance and use of technology (UTAUT)¹⁶

¹⁶ Source: Venkatesh et al. (2003)

Since UTAUT was published, it has become a fashionable model to use in research on e-government service adoption. Its popularity is not only because of its comprehensive structure combining previous theories, but also comes from its applicability to examine demographic impacts on citizens' adoption of e- government services. For example, the digital divide can be discussed based on the results of testing the moderator variables of age, gender, and experience. In the context of G2C in e-government, UTAUT agrees with previous studies in adopting 'intention' and 'use' as citizens' behaviours towards e-government services.

2.4.1.7 Other models observing users' behaviours

Some other models have also examined users' behaviours, such as the motivational model (MM) (Davis, Bagozzi, and Warshaw 1992) and the diffusion of innovation theory (DOI) (Rogers Everett 1995). The motivational model (MM) was proposed by Davis et al. in 1992 to demonstrate that people's intention to use computers in the workplace is influenced by the degree of enjoyment besides their perceptions of usefulness, ease of use, and perceived output quality. The MM identifies users' behavioural intention in the situation of facing computer technology instead of discussing both intention and adoption, as well as their connection. On the other hand, the DOI is more related to the explanation of the spread of new ideas and technology. The DOI theory positions individuals' and organisations' adoption of innovation as the key issue, compared to previous studies that focus on the behavioural intention.

2.4.2 Citizens' behaviours towards e-services via e-government studies

As a respected discipline and an established research field since the 1990s, e-government research has developed its own community and methodology (Scholl 2009; Khan and Park 2013). Over the last decade, this research has attracted various communities such as academic scholars, practitioners, and policy-makers, among others. Multiple perspectives and topic areas are actively participating in the discussion, offering a three-dimensional space for the study of e-government (Hardy

and Williams 2011). To prevent e-government research from becoming fragmented and disconnected, some researchers have volunteered to sort out certain aspects of the e-government research domain (Lee 2010). For instance, Bolívar et al. (2010) identified trends in terms of research and methodology used in past e-government research to deepen the understanding and intercommunication among researchers, and thus the knowledge in the field (Rodríguez Bolívar, Alcaide Muñoz, and López Hernández 2010). Their investigation identified 'behaviour of citizens in relation to the applications of e-government' as one of the main research topics, accounting for 9% of articles published until 2009. They described this research theme as 'articles that focused on user-centered study of the accessibility of e-government sites; studies about the characteristics of citizens who use ICTs to communicate with public administrations, citizen's behaviour in the use of the information posted on the governmental websites, and the different attitudes of citizens against the government in the used media tools' (Rodríguez Bolívar, Alcaide Muñoz, and López Hernández 2010).

The findings of a study by Bélanger (2012) showed that information system research, which contains many e-government topics, was more often conducted at the individual level (Bélanger and Carter 2012). Along with the studies going deeper and further in the e-government field, more and more authors have devoted themselves to the citizen-centred approach by examining issues regarding citizens in the e-government area. A study reviewing e-government research in US claimed that research theme regarding 'e-government interaction-engagement, participation, and/or access in citizens' perspective' ranks the first of all articles in a governance perspective (Snead and Wright 2014). Irani et al. (2012) investigated the methodologies used in e-government research to determine whether the general public or citizens are the most surveyed respondents in quantitative research regarding e-government issues (Irani et al. 2012). On the whole, there is increasing interest in the topic of citizens in e-government research, in which citizens' behaviours towards e-government services is a non-negligible section to be explored.

As introduced in section 2.4.1, the intention to use a new technology/system and the actual adoption are the two identified behavioural actions of individuals. In the context of G2C applications in e-government, these two behaviours signify 'citizens' intention to use the e-government services' and the 'adoption of the e-government services'. Both the intention to use and the adoption decision are commonly recognised in e-government research (Dwivedi et al. 2011). 'Adoption of the e-government services' is regarded as a dependent variable, while 'intention to use the e-government services' has served as either an independent or a dependent construct.

However, some other behavioural factors of citizens are discussed or justified in the e-government literature besides intention and adoption. Both in the theoretical and the practical field of e-government, citizens' awareness and satisfaction regarding e-services are also treated as crucial factors for evaluating the success of projects. Due to the intersections among these factors and their impact on the delivery of e-services overall, researchers have focused on various individual factors and their correlations.

2.4.2.1 Citizens' awareness of e-government services

Awareness refers to the extent to which citizens are conscious of the introduction of an e-government technology (Charbaji and Mikdashi 2003). Awareness of e-services has been considered as one of the basic objectives for e-service adoption, simply because citizens cannot use it if they have no knowledge of its existence. For example, no matter how useful, well designed, and accessible a website is, if people do not know it is there and what is on it, they will not use the e-channel route to the delivery of the service (Gunter and Mellor 2006; Ward, Connolly, and Hackney 2011). Awareness has also been identified as the key concern for governments in the first stage, the market penetration stage, of launching e-government technology (Chan et al. 2011). It is considered as a critical success factor for e-government as well, which emphasises the importance of citizens as users/customers (Saatçioğlu, Deveci, and Güldem Cerit 2009). In addition to the fundamental sense of awareness, scholars have verified its impact on citizens' attitudes towards e-service (Sia et al. 2001) via empirical research and

analysis.

Regarding citizens' positive attitude towards adopting e-services, awareness affects their first thought, which is their willingness to use the new technology for public services: lack of awareness of the range of possibilities that the internet and e-government services offer have been reported to be a factor in why individuals are not motivated or interested in learning how to use the internet (Sipior, Ward, and Connolly 2011; Aerschot and Rodousakis 2008). In a similar vein, empirical evidence from a study of e-government use among the general population in Lebanon (Charbaji and Mikdashi 2003) supports a positive relationship between awareness and intention to use e-government. Moreover, awareness of e-government websites has been found to directly lead to positive feelings toward e-government, with directly and indirectly impacts participation in e-government (Sipior, Ward, and Connolly 2011).

Shareef et al. (2011) examined the e-government adoption model, in which perceived awareness is hypothesised and justified to have a positive relationship with the adoption of e-government. In this study, the authors admitted that citizens' awareness is presumably an important critical factor for attitude and behavioural intention to use those systems (Shareef et al. 2011). Furthermore, empirical studies have shown that awareness is a major concern for the adoption of e-government services within the context of Pakistani society, knowledge and awareness are also directly and indirectly related to behavioural intention. Moreover, it appears that awareness has a great direct effect in the case of Lebanon (Charbaji and Mikdashi 2003; Rehman, Esichaikul, and Kamal 2012). According to Aerschot et al. (2008), motivation to use the internet may very well be influenced by the lack of awareness about the possibilities and opportunities that the internet offers. It is plausible that the general notion that 'I do not need the internet' does in fact apply when an individual's needs for communication, information, and running errands are met with traditional means and when that person is not aware that these errands could actually be completed faster and more conveniently through the internet (Aerschot and Rodousakis 2008).

2.4.2.2. Citizens' satisfaction with e-government services

User satisfaction is another factor used to assess the continual usage of e-government services and the success or failure of e-government projects (Alawneh, Al-Refai, and Batiha 2013). The UN has stated that the initiatives of e-government should guarantee that citizens are satisfied with the governing process (UN 2005). A study focusing on citizens' satisfaction with e-government has criticised the weakness of the technology acceptance and behavioural action models in predicting citizens' behaviours after acceptance (Zhang 2013a). To create a citizen-centred e-government, and for providers to meet user expectations, citizens' behavioural feedback after adoption should be considered (Jaeger and Bertot 2010). Since citizens' satisfaction has been regarded as a crucial measurement in performance-based bureaucracy (Moynihan 2010), there is naturally a growing discussion about citizens' satisfaction in the practice of e-government as well.

In some of the discussion on this topic, citizens' satisfaction has been observed as a dependent structure, and studies have examined how the independent variables such as demographics and service quality impact citizens' level of satisfaction (Hero and Durand 1985; Roch and Poister 2006). In the meantime, some studies have investigated the relationship between satisfaction and other citizens' behaviours. In a portion of e-government literature, the frequent usage of e-services leads to increased satisfaction among citizens, although the explanation of satisfaction is considered to be unclear in some authors' opinions (Zhang 2013a). By way of contrast, a number of studies have examined how the degree of satisfaction with e-services will impact citizens' adoption rates. For example, it has been stated that improved quality of e-government will increase citizens' satisfaction, which in turn will increase the acceptance rate (Stiftung 2002). Furthermore, Kumar et al. (2007) argue that a higher level of customer satisfaction will increase the rate of e-government adoption (Kumar et al. 2007). A case study in Romania proved the positive impact of satisfaction on e-government adoption based on empirical evidence (Colesca and Dobrica 2008). From a user-centric perspective, Verdegem and Verleye (2009) argued that user satisfaction

does indeed have a decisive influence on large-scale adoption and the use of e-government services; they supported their argument by demonstrating the process of citizens' reaction to e-services from the awareness stage to the satisfaction stage (Verdegem and Verleye 2009). Moreover, some scholars have theorised that satisfaction will affect not only adoption but citizen trust and confidence in the government in different nations (Welch, Hinnant, and Moon 2004; Morgeson III, VanAmburg, and Mithas 2010; Morgeson and Petrescu 2011). As a behaviour of citizens towards e-government services, satisfaction is adequately positioned in the stage after citizens' adoption of e-government, and is considered to have a relationship with the adoption as well.

All in all, citizens' behaviours towards e-services have been examined using the philosophy of the citizen-centred trend in e-government literature. Previous studies have relied on the structure of the technology acceptance and behavioural action models, which emphasise the influences of technological innovation on individuals' perception-related factors. On the other side, the vividness of multi-dimensional analysis regarding e-government issues has contributed to the exploration of citizens' other behaviours towards e-services, such as awareness of the e-platforms in the first phase, and satisfaction after adoption in the posterior stage. Nevertheless, there is a lack of systematic analysis to integrate all the behavioural actions that citizens may potentially take in the e-government area. Theoretical and empirical efforts should be made to identify these behavioural actions, both in theory and in practice. These efforts are not only a dedication to the citizen-centred topic of e-government research, but also provide e-government practitioners with instructions to understand citizens in a comprehensive way.

2.5 Mobile and SNS utilisation in e-government

E-government entered public administration in the 1990s with the utilisation of ICT, beginning with straightforward services such as official government websites, mayors' mailboxes, hotlines, and online forums. As the digital society has developed

and introduced changes, scholars have gradually documented a transformation in e-government as well. With the popularity of multiple digital devices such as tablets and smart phones, governments have endeavoured to exploit the accessibility of e-services so citizens can reach public departments via diverse entry points. Regarding theoretical discussions,

As advanced technologies nowadays have offered citizens more possibilities to interact with the government; for example, a smart phone can combine functions of a mobile phone and a personal digital assistant (PDA) in one portable device. Mobile government (m-government) was born under this background of a high penetration of mobile devices. Kushchu et al. (2003) put forward the definition of m-government as 'providing citizens with more sufficient and less constrained public services compared to traditional e-government applications' (Kushchu and Kuscü 2003). Further studies on the topic have defined m-government as 'a strategy and it is implemented by the government to provide information and services to the government employees, citizens and other organizations through mobile devices' (Lee, Tan, and Trimi 2006). Compared with classical e-government, m-government is reputed to have great potential because of its low cost, easy infrastructure setup and learning, and accessibility (Mengistu, Zo, and Rho 2009). Moreover, mobile technology is superior due to its characteristics of mobility and wirelessness (Trimi and Sheng 2008). Mobile technologies have proven to be a critical channel for governments to provide timely information to citizens, which refers to the scale of G2C and improves communication in the G2C practice (Ghyasi and Kushchu 2004).

Following the theory of digital-era governance (DEG), said to be the successor of new public management (Dunleavy et al. 2006), Margetts and Dunleavy (2013) emphasised the pressure on governments from the rapid growth of social media in commercial, social, and cultural life in the digital era, and how this could potentially facilitate the second wave of DEG to provide holistic services to citizens (Dunleavy et al. 2006; Margetts and Dunleavy 2013). With the growing usage of social networking from citizens, there is no way for governments to avoid contact with social media in

the realistic digital world. According to Yang (2017), “Civil services via conventional e-government applications may no longer satisfy citizens who have already experienced transcendental communication via SNS, and Dunleavy suggests ‘there should be no boundaries to governments’ social media endeavours’ in this case” (Dunleavy 2012; Yang 2017). Various authors have provided ideas to apply social networking in the e-government area to achieve better outcomes to increase e-participation and transparency (Bonsón et al. 2012). Social networking applications and social media not only affect e-government but also play a role in its communications process (Magno 2012; Yang 2017). However, as SNS have become a present that can be ignored in social life, scholars have raised concerns on the utilisation of SNS in e-government. There is a suggestion about how the governments should collaborate with the private sector in a different and guided approach to utilise social media in the public sector (Dadashzadeh 2010). On the other hand, other authors have questioned social networking’s ability to reach every group of citizens equally (Yates and Paquette 2011), as well as the potential confusion between private and public use (Hellman 2011). As Yang (2017) points, “although there is no theoretical consensus regarding the use of SNS applications in e-government, both academics and practitioners need solid data and cases with respect to this ongoing tendency” (Yang 2017). This thesis aims to leave a case study that then taken from example of the adoption of local e-government services in the context of a Chinese administration. Two SNS giants named “WeChat” and “SinaWeibo” have been chosen by the public authorities as collaborators to deliver local e-services on their commercial platforms.

3. Public marketing and its application in e-government

3.1 Marketing strategy and public-sector marketing

Marketing strategy is the most widely applied theory in both the business and non-profit sectors regarding the management of exchange relationships (Bagozzi 1975). Starting with its definition, marketing theory has received a great deal of attention regarding its scope, classification, and application, among others.

3.1.1 General marketing strategy and marketing mix

The American Marketing Association (AMA) defines marketing as 'the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large' (AMA 2013). Another famous definition is that of the Chartered Institute of Marketing proposed in 1976: 'Marketing is the management process responsible for identifying, anticipating and satisfying customer requirements profitably' (Gamble et al. 2011). Furthermore, renowned researcher Philip Kotler also suggests a definition: 'Marketing is a social and managerial process by which individuals and groups obtain what they need and want through creating and exchanging products and value with users' (Kotler et al. 1990). Although many studies have tried to provide sophisticated definitions of marketing, those definitions have been criticised for being too restrictive. Drucker (1974) argued that marketing is so basic that it cannot be considered as a separate function, and that it can only be evaluated from the customer's view point as the final result (Drucker 1974).

Whether the debate regarding the marketing definition continues or not, the marketing tools are broadly accepted by various quarters. As one of the most influential sub-theories in marketing strategy, the marketing mix is the foundation model that expresses the essentials of marketing. Kottler et al. (2003) defined it as 'a set of marketing tools that the firm uses to pursue its marketing objectives in the target' (Kottler and Keller 2003). The formal emergence of the marketing mix can be traced to the first version of the 4P model proposed by McCarthy in 1960. The 4P model initiated the managerial approach to marketing strategy that covers analysis, consumer behaviour, market research, market segmentation, and planning (McCarthy 1978). It has been widely adopted by both marketing academics and practitioners (Constantinides 2006).

As a profound framework that has inspired updated models, the 4P structure uncovered four basic elements of decision-making in marketing strategy. Figure 2-17

shows the four dimensions: product, price, place, and promotion.

In McCarthy's 4P model, product is the first and basic element; it refers to an item that is built or produced to satisfy the needs of a certain group of people. The product can be either intangible or tangible, as it can be in the form of a service or a good

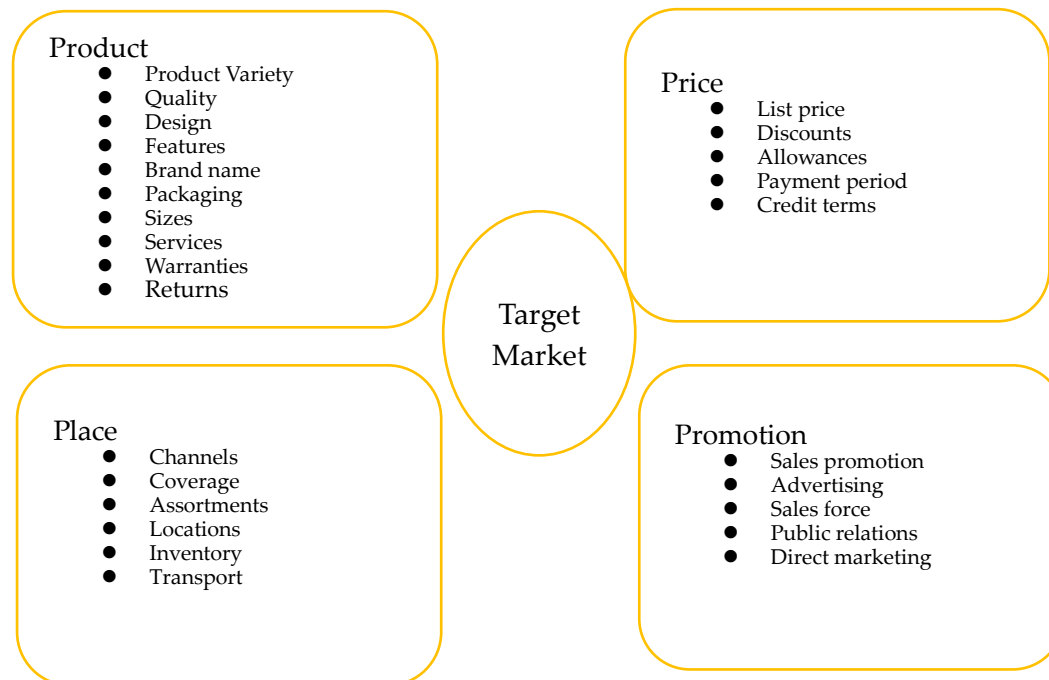


Figure 2-8. The original Four P's Model¹⁷

(McCarthy 1960). In the production phase, some product decisions must be made, including those related to the 'quality, features, benefits, style, design, packing, service and other items' (Blythe 2009). The second factor, named price, is the amount that a customer pays to enjoy the product. It is a crucial component of a marketing plan because of its conclusiveness for the profit and survival of a firm in the business world (Acutt 2015). A pricing strategy includes cost plus competitive concerns, and a number of methods are available to determine a product's positioning in the market in the pricing phase. The third element, place, refers to the distribution or the methods and location used for the product or service to be easily accessible to the target customers

¹⁷ Source: Reproduced based on McCarthy (1960)

(Acutt 2015). To determine the place, strategies such as intensive/selective/exclusive distribution and franchising can be employed (Wright 1999). Finally, the last element of the 4P marketing mix is promotion, which refers to ‘the marketing communication used to make the offer known to potential customers and persuade them to investigate it further’ (Blythe 2009). In the promotion stage, an organisation tries various methods to let potential customers know about the product being sold.

In the 1980s, a number of theorists extended the 4P model into the 7P framework with three new elements: process, people, and physical evidence. The 7P model was developed under the philosophy of increasing the number of service-marketing features applicable for service-oriented management (figure 2-9). The three new factors reveal an expanded focus on the environment, people, and procedures of decision-making in the service market.

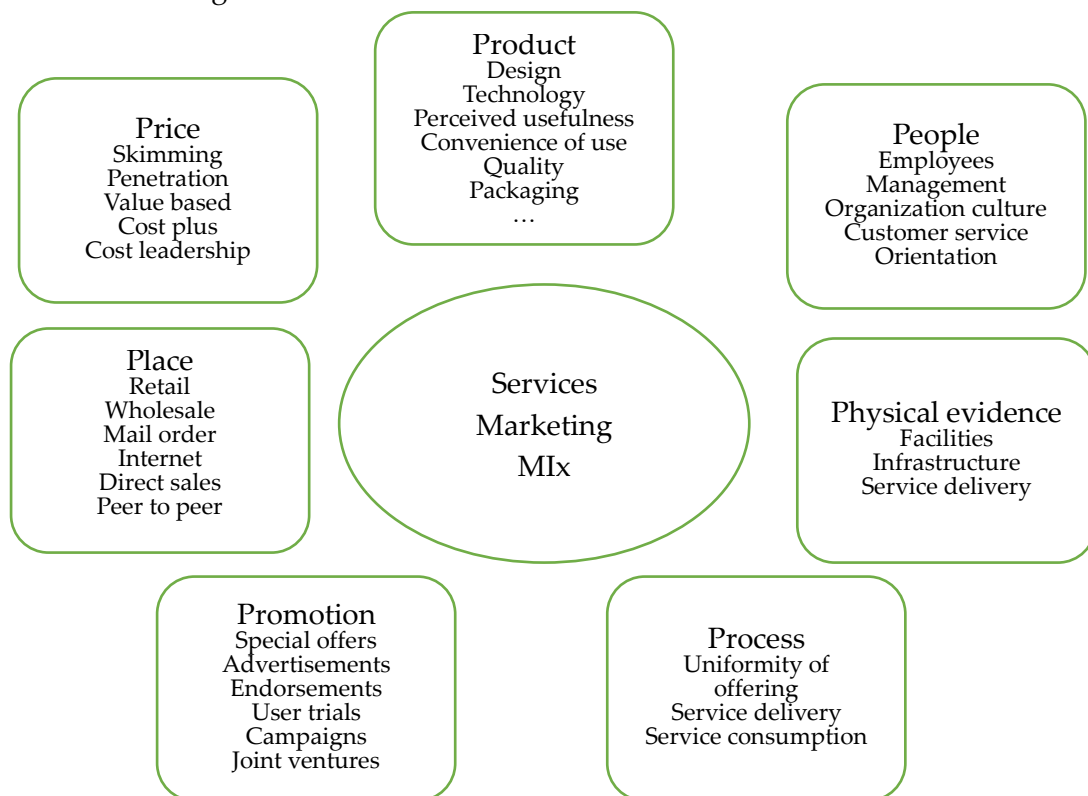


Figure 2-9. The extended 7P model¹⁸

¹⁸ Source: Reproduced based on Booms and Bitner (1981)

In the 1990s, there came up with the more customer-oriented trend in marketing strategy. Some scholars proposed an updated 4P model, such as the 4C model. Figure 2-10 presents the changes from the 'P' to the 'C' version. In the two 4C frameworks proposed by Shimizu (1972) and Lauterborn (1990), the promotion becomes 'communication', which represents more of a 'cooperation' with the customer than the

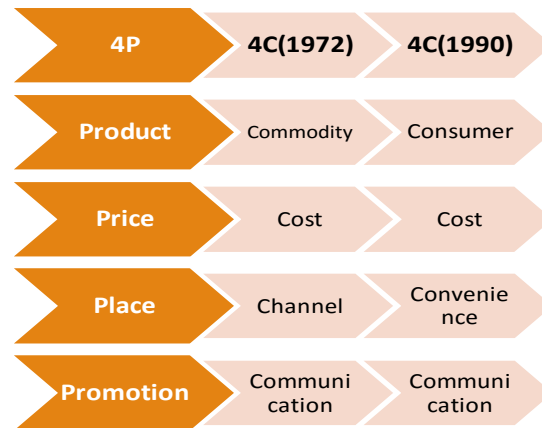


Figure 2-10. 4C models compared with the 4P framework¹⁹

old 'manipulative' promotion from the provider (Lauterborn 1990). Communication represents an aim to create a broader dialogue with customers, while sufficient attention is given to customers' needs and satisfaction.

As the 4P model evolved to the 7P framework, the C version of the marketing mix also followed the development to its latest version: the 7C model. Shimizu (1979) expanded his 4C model to the 7C compass model to provide a more comprehensive picture of collaborative marketing methods (Shimizu 1989). Regardless of the model, the section of promotion reveals the importance of communication between providers and customers.

3.1.2 Public marketing (social marketing)

As marketing strategy possesses the character of interaction between certain groups (provider and customer), today marketing is facing a new challenge concerning whether its concepts apply in both the non-business and the business areas (Kotler 1972). In 1969, Kotler and Levy promoted the idea that marketing is a relevant

¹⁹ Source: Author, the contents adapted from Lauterborn (1990) and Shimizu (2009)

discipline for all organisations, as all organisations can be said to have customers and products (Kotler and Levy 1969). Furthermore, another reason for applying marketing strategy to the non-business sector is that the multiple marketing tools that the modern business firms relies on can also be utilised by non-business organisations to reach their audience (Kotler and Levy 1999). Since the 1960s, research interest has grown in employing marketing strategy in the public sector, usually called 'public marketing' or 'social marketing', as a result of changed perceptions of public services and the developments in public service management in the last decade (Kotler 1979). These social sectors range from government departments to non-profit organisations but have a mutual aim: to influence the behaviours of a target group.

In the theory of social marketing, this strategy was firstly defined by Kotler and Zaltman in 1971 as 'the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution and marketing research' (Kotler and Zaltman 1971). Andreasen (1994) questioned this definition for its limitation in representing the potential objectives and marketers, and proposed the following updated definition: 'the adaptation of commercial marketing technologies to programs designed to influence the voluntary behaviour of target audiences to improve their personal welfare and that of the society of which they are a part' (Andreasen 1994). In fact, marketing exists everywhere, and 'all organizations do it whether they know it or not' (Kotler 1979). However, there are differences between public and private marketing. For instance, the model of public policy marketing may contain political environment, in which legal authority should be weighted (Snaveley 1991). Papadopoulos et al. (1988) described the specific characteristics of marketing in the public sector as follows:

(1) Standards of behaviour: People demand that public-sector marketing be fair, ethical, accountable, and observe proprieties;

(2) Mandates and constraints: Public bodies in some situations are not as free as private firms are in the areas of product and price. Constraints for the public sector can be either formal

or informal, stated, or understood;

(3) Targeting market segments: Public organisations have to target a larger number of segments than private firms, which only have customer segments. The public organisations' segments can simultaneously be up-stream and down-stream, which increases difficulty for public bodies to cover all their targets; and

(4) Performance measurement: Though quantifying effectiveness in the public arena is difficult, nowadays the growing acceptance of marketing concepts has helped public sectors to develop performance measurements (Papadopoulos, Zikmund, and D'Amico 1988).

Regarding the necessity of encouraging the public sector to think in broad marketing terms, Titman (1995) explained that the privatisation of the public sector in the early 1980s triggered this trend of public marketing (Titman 1995). Other scholars have advocated for the use of public marketing from various perspectives as well: for example, pursuing a goal of efficiency leads public sectors to marketing tools (Chapman and Cowdell 1998); a request for customer-orientation and effectiveness measurements in government calls for marketing strategy (Van der Hart 1990); and the need for a better interaction with the public requires what communication tools in marketing can offer (Crompton and Lamb 1986). According to Lee and Kotler (2006), 'marketing turns out to be the best planning platform for a public agency that wants to meet citizen needs and deliver real value' (Lee and Kotler 2006). In the public sector, marketing's mantra shifts from customer value and satisfaction, to citizen value and satisfaction.

3.2 Marketing promotion and public promotion

3.2.1 Marketing promotion

As introduced in previous section, promotion is one of the basic elements of the original 4P model. According to McCarthy (1960), promotion refers to 'any type of marketing communication used to inform or persuade target audiences of the relative merits of a product, service, brand, or issue' (McCarthy 1960). In 1993, McCarthy updated the aims of promotion to include increasing awareness, creating interest,

generating sales, and creating brand loyalty (McCarthy and Perreault 1993). This explanation specifically highlights the central task of promotional strategy as attracting customers via communication tools. According to Wilson and Gilligan (2012), promotional activities such as advertising are devoted to promoting products and services to a target audience, and public relations and communications need to be a concern. 'Relationship marketing' is also a vital part of this process (Wilson and Gilligan 2012). Regarding the purpose of promotion, Boone and Kurtz (1995) consider that promotion can be used to present information to consumers and others; increase demand; differentiate a product (Louis and David 1998). Rajagopal (2007) extends the range of promotion objectives including sales increases, new product acceptance, creation of brand equity, positioning, competitive retaliations, or creation of a corporate image (Rajagopal 2007).

As one the basic elements of marketing, promotion also has its subset model to contribute to the marketing mix. Named the 'promotional mix', it is a series of promotional factors chosen by marketers to help a firm reach its goals (Harrell 2002). This set is believed to serve as a sub-set of the marketing mix (Boone and Kurtz 2013). As shown in figure 2-11, five variables of promotion are widely acknowledged: advertising, direct marketing, sales promotion, public relations, and personal selling. They are responsible for different parts of the message-delivery from the provider to the customer. The definitions of these five vehicles are explained as:

Advertising: Any paid form of nonpersonal presentation and promotion of ideas, goods, or services by an identified sponsor.

Direct marketing: Direct connections with carefully targeted individual consumers to both obtain an immediate response and cultivate lasting customer relationships.

Sales promotion: Personal presentation by the firm's sales force for the purpose of making sales and building customer relationships.

Public relations: Building good relations with the company's various publics by obtaining favorable publicity, building up a good corporate image, and handling or heading off unfavorable rumors, stories, and events.

Personal selling: Personal presentation by the firm's sales force for the purpose of making sales and building customer relationships (Kotler 2012; Weber 2013).

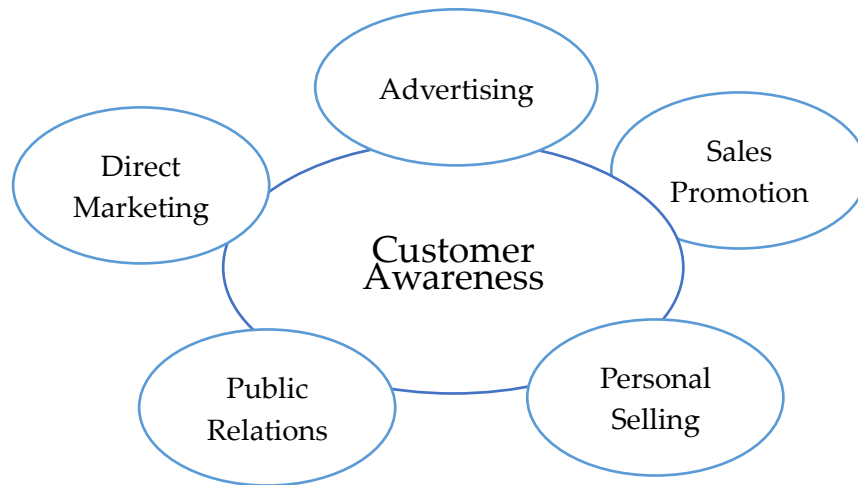


Figure 2-11. Basic variables of the promotion mix ²⁰

3.2.2 Promotion of public marketing

It is appropriate to expect that the public sector also needs promotion to increase public awareness and adoption of specific products or services. Public marketing scholars have explained the role of promotion in the non-business sector. For instance, Chapman and Cowdell (1998) claimed that promotion of public marketing can involve frequently raising awareness of social and not merely personal concerns, and can even be used to try to discourage certain practices (Chapman and Cowdell 1998). According to these authors, the promotional techniques used in the commercial markets can also be utilised in the public sector. However, they noted that social marketing needs to adjust some sensitive concepts of the original marketing story, as public marketers often target audiences who are the 'least affluent and hardest to reach', instead of searching for the greatest profit in the business world (Chapman and Cowdell 1998).

Lee and Kotler (2006) considered that promotion could enable the public sector to ensure target audiences know about the public bodies and their offering. A public promotional strategy could convince audiences that they will experience the benefits promised by organisation, and inspire them to act (Lee and Kotler 2006). Furthermore,

²⁰ Source: Reproduced based on Weber (2013).

the authors also emphasised the importance of audiences' opinion and response in designing messages. As one of the keys to public promotion, the authors suggested that the public sector could find an expert in the field to help the organisation achieve its communication objectives. Those experts range from non-profit organisations to business bodies. In this case, the public-sector benefits from a partner who will add liability to the promotion efforts (Lee and Kotler 2006). From this point of view, a collaboration between the public and private sector in promotional activities can improve the delivery of the message to target groups.

Regarding the promotion mix in public marketing, Titman (1995) summarised four main dimensions: publicity (public relations), advertising, personal selling, and sales promotion as shown in the following table 2-5.

Dimension	Purpose	Vehicle
Publicity	<ul style="list-style-type: none"> ● Enhance institutional visibility/image ● Disseminate product information ● Reinforce advertising campaigns 	News releases News conferences Annual report Counselling Special events Lobbying
Advertising	<ul style="list-style-type: none"> ● Delivery message 	Television Radio Newspapers Magazines Outdoor/Indoor
Personal selling	<ul style="list-style-type: none"> ● Satisfy audience's need 	Customer care Dealing with clients Presentations Giving expert evidence Mounting briefings
Sales promotion	<ul style="list-style-type: none"> ● Offer incentive to do something ● Stimulate demand 	Coupons Price packs Prizes/awards Free trials Premium items

Table 2-5. Promotion mix of public marketing (social marketing)²¹

²¹ Source: Author. The content derived from (Titman 1995)

According to table 2-5, most of the marketing promotion vehicles are available for use in the public sector. Nevertheless, not all methods are appropriate or useful in this context. For instance, product placement, referring to the incorporation of brands and products into certain works such as films or television programmes, may be ill suited to promoting public services to target groups.

3.3 E-government promotion

According to Kotler (1979), the interesting part of a marketing strategy is that 'all organizations do it whether they know it or not' (Kotler 1979). In both theoretical and empirical fields regarding e-government, limited attention has been given to the promotion process between a government and its audience, representing the potential users of e-government services in this context. While governments and public bodies fostered the development of e-government services in the last decade, promoting more and better administrative services through digital channels, Marín (2011) argued that the impact of this process has not been fully assessed (Fernández-i-Marín 2011).

Fortunately, a few studies and cases have demonstrated the existence of promotional tools applied in the e-government sector. Chan et al. (2008) reported the case of e-government promotion conducted by the Singapore government in 2008. E-government promotion is firstly defined as 'any activities or initiatives undertaken to promote the adoption and usage of the e-government infrastructure as well as the associated information content' (Chan, Lau, and Pan 2008). From this definition, the adoption of e-government is precisely identified as the objective of a government's promotional activities. In addition, the Singapore government was reported to clearly realise the importance of using various publicity activities and strategies to boost the public awareness of e-services. Creating greater awareness and inducing the use of e-services were the two crucial aspects of the Singapore government's promotion strategy. The marketing campaign featured promotion activities such as road shows, exhibitions, advertisements in newspapers and on the radio, public billboards, and

price-down/time-cost down. This is strong evidence of the existence of e-government promotion in a practical trial, as the Singapore government 'understood that even with the most superb e-government infrastructure, the widespread adoption and use of the e-government infrastructure cannot be assured' (Chan, Lau, and Pan 2008).

Some other cases of e-government promotion have been found in different nations. The UK government reportedly spent 5 million pounds on a campaign to persuade citizens to adopt a government web portal to contact their local council in 2006 (Cross 2006). 'Spreading awareness of e-government service' was highlighted as the main purpose of this campaign. To achieve this goal, radio and press advertisements sponsored by the Department for Communities and Local Government were launched. In another study, Sethi et al. (2008) examined the case of e-government promotion of the Dubai government in 2008. The promotion was designed mainly to raise the public's awareness of the government's e-services (eCitizen, eEmployee, eLearn, eManager and e4all Magazine). Besides common advertisement, various activities such as road shows, competitions, online marketing, propaganda on magazine, and community outreach events were utilised to ensure that the public was aware of and familiar with the core concepts of the e-services (Sethi and Sethi 2008). Furthermore, Jait (2012) examined the awareness promotion of e-services by the Brunei government in 2012. A large promotion campaign called 'P2C/P2U' (Promotion to Citizens/Users) was conducted to enhance the awareness of potential users. Publicity and marketing activities were divided into four dimensions: (1) a face-to-face approach including exhibitions, road shows, campaigns, seminars, conferences, and conventions; (2) a printed-media-based approach including leaflets, posters, billboards, newspaper advertisements, and press releases; (3) an electronic-media-based approach including radio and television, video conferences, information kiosks, and telephone calls; and (4) a digital-media-based approach including email, blogs, websites, search engines, and short message services (SMS) (Jait 2012).

Although these studies showed the existence and shape of promotion in the e-government area, little attention has been paid to the structure and functional

mechanism of this promotion from an academic perspective, not to mention the link between promotion and citizens' behavioural models.

4. An overview of the Chinese e-government

4.1 Administration and e-government system

4.1.1 Administrative divisions of China

According to the constitution and an official announcement, China's administration units are currently based on a three-tier system. In the first layer, the country is divided into three sections: provinces (sheng), autonomous regions (zi zhi qu), and municipalities directly under the central government (zhi xia shi). Then, under the province and autonomous regions, autonomous prefectures, counties, autonomous counties, and cities are constituted as the sub-layers, in which a third level of administrative divisions exists, including townships and towns (gov.cn 2014). As of 2017, there are 23 provinces, 5 autonomous regions and 4 municipalities directly under the central government, and 2 special administrative regions (Hong Kong and Macau) in the administrative structure of China (gov.cn 2014).

Though the term 'municipality' may differ in different political systems, it is used to specifically represent 'direct-controlled municipalities'²² in the context of the People's Republic of China (PRC). At the time of this writing, there are four municipalities under the supervision of the central government. Compared with other cities, these municipalities can be regarded as the highest level, with the same administrative power as province.

4.1.2 Central-local relations in post-1949 China

As a country with a long history of feudal unification, central-local relations are a core issue in the Chinese administrative system. Since 1949, when the new authority of the PRC was established, the power allocation has experienced changes under the

²² The original Chinese is “直辖市”.

leadership of the Chinese Communist Party (CCP). The exercises of centralisation and decentralisation are described as the major 'contradictions' that initiated social changes in political and economic ways (Schurmann 1966). During the 50s and 60s, a first generation of CCP leaders was able to keep central power and a unified country due to the core status of Mao, whose authority was universally approved within the party (Suli 2003). Then, when China entered the post-Mao era in the 70s, there was a dramatic change in the relations between Beijing and local forces. The CCP published its new series of economic reform strategies (Gai Ge Kai Fang) in 1978, led by Mao's successor Deng Xiaoping, whose ambition was to introduce the marketing mechanism from capitalism in China to build 'socialism with Chinese characteristics' (Zhong Guo Te Se She Hui zhu Yi). A number of scholars have examined the post-Mao reforms and their influence on the central-local relations (Chung 1995; Huang 1996; Li 2010; Tanner and Green 2007; Lardy 1975; Kostka and Nahm 2017). Chung (1995) reviewed studies on the topic of central-local government relations in PRC from three approaches: the cultural, structural, and procedural perspectives, concerning provinces or province-level units. He argued that though most of the studies on central-provincial relations used a structural approach in general, they were too focused on the fiscal and planning arrangements. In fact, many scholars analysed the fiscal system in post-1949 China to sort out the contest between central and local forces. Chung called more attention to the (de)centralisation of non-fiscal dimensions of central-local government relations. On this important topic, Li (2010) provided a meticulous observation of the trends in central-local relations from 1949 and three identified phases from the 1950s until the present. In the development of Chinese central-local relations, the first stage took place from the 1950s to 1980s, when cycles of administrative decentralisation and recentralisation occurred because the actions of central leaders were continually altered. They often relaunched decentralisation to 'unleash' local enthusiasm for the national projects and economic developments, and then implemented recentralisation to consolidate the authority of a unified system yet again (Li 2010). At the end of this period, administrative decentralisation was established and served as a persistent

policy under the national strategy 'Gai Ge Kai Fang', known as the Chinese economic reform and opening up in late 1978. The national development strategy was a milestone in the history of the new PRC, which was different from the former country in many regards: the national economic system transformed gradually from a 'planned economy' to a 'socialist market economy' (formally adopted in 1993); the ban on foreign investment was lifted in the domestic market; and entrepreneurs were allowed to start businesses, whereas in the past only state-owned enterprises were allowed. The second phase, from the 1980s to 1990s, was named as 'state and market, adjusting roles' by Li (2010). For the first time, local authorities enjoyed increasing autonomy and power due to the policies of economic reform that allowed them to formulate and implement locally based plans out of central control. Well-known cases appeared in the provinces of Guangzhou and Fujian, which were authorised by central leaders to take comparatively agile actions in economic activities overseas. Shenzhen, Zhuhai, Xiamen, and Shantou were the first Special Economic Zones (SEZs) to experience preferential treatment not only regarding economic development, but also in terms of social reform.

After a decade of trialling this socialist market economy, the relation between the central and local authorities entered a new phase in the 2000s, which Li (2010) described as 'demarcating responsibilities over public service provision'. In this present phase, the key point is to clarify the respective responsibilities of the central and local authorities based on a fiscal system with clear boundaries at different levels of administration. Some domestic researchers have examined this trend and pointed out that a more elaborate legal framework should be established regarding the responsibility demarcation in the central-local relations to facilitate administrative reform (An 2007). In 2016, the state council published central policy document 'Guofa [2016] No. 49', which aims to promote fiscal responsibility and expenditure responsibilities at the policy level (PRC 2016). Li (2010) summarised the studies that have been conducted on central-local relations in PRC so far; this summary can be seen in table 2-6.


Central-Local Trends	
Administrative Centralization- decentralization	Time 
Ajusting role of government vis-à-vis market	
Responsibility Demarcation over public services	

Table 2-6. Processes underlining central-local trends²³

4.1.3 Local governance in the administrative system

In his book titled *Decentralized Authoritarianism in China*, Pierre F. Landry asked, ‘How decentralized is China?’ The author sought to answer it using cross-national indicators (Landry 2008). His conclusion was unexpected: though general data shows that decentralisation has very strong correlation with democracy and federalism – for instance, authoritarian regimes are 11 percentage points less decentralised than democracies – the PRC was unusually decentralised in the reform era, consistent with the level of a federal democracy.

In fact, China has been evaluated as a comparatively highly decentralised nation, coming in 21st place in the global ranking by the World Bank (Ivanyna and Shah 2012). Table 2-7 is derived from the ‘Country Ranking: Decentralization Indexes’ (2012), where seven indicators were chosen to reveal one country’s level of decentralisation. ‘LG RI’ is short for ‘Local Government Relative Importance’, and ‘LG SE’ means ‘Local Government Security of Existence’. The rest of the indicators are explained in Table 2-8; each concerns local government’s power and central-local relation.

²³ Source: Reproduced based on Li (2010)

pos	country	LG RI	LG SE	FDI	PDI	ADI	DI	GCI
1	Denmark	0.59	1.00	0.9	0.58	0.9	34.03	31.49
2	Switzerland	0.22	1.00	0.96	1	0.9	19.84	29.82
3	Sweden	0.44	1.00	0.77	0.54	0.9	20.71	20.22
4	Finland	0.37	0.75	0.76	0.67	0.9	16.04	19.18
5	United States	0.24	0.75	0.9	1	0.75	14.19	17.56
6	Norway	0.32	1.00	0.74	0.58	0.9	15.11	16.9
7	Iceland	0.27	0.75	0.79	0.75	0.65	10.53	15.62
8	Japan	0.41	0.75	0.68	1	0.56	15.31	13.49
9	HK,China	0.50	0.50	1	0.67	0.65	17.29	13.39
10	Singapore	0.50	0.50	1	0.67	0.65	17.29	11.19
11	Austria	0.14	1.00	0.76	0.75	0.7	6.68	9.85
12	Korea,Rep	0.41	0.75	0.7	0.75	0.53	12.33	9.85
13	Canada	0.17	0.75	0.9	0.83	0.75	8.69	9.32
14	Hungary	0.26	0.50	0.62	0.75	0.82	6.91	9.27
15	Brazil	0.15	1.00	0.78	0.83	0.7	8.09	8.1
16	Poland	0.29	0.75	0.62	0.58	0.7	7.93	8.1
17	Georgia	0.26	0.50	0.78	0.42	0.69	5.48	6.75
18	France	0.18	0.50	0.75	0.58	0.66	4.35	5.98
19	Germany	0.15	0.75	0.67	0.75	0.64	4.86	5.75
20	Czech Republic	0.20	0.50	0.73	0.58	0.45	3.71	5.5
21	China	0.51	0.50	0.53	0.25	0.71	6.32	5.46
22	Latvia	0.26	0.50	0.55	0.5	0.7	4.11	5.17
23	Colombia	0.30	0.50	0.49	0.67	0.55	5.23	4.85
24	Italy	0.30	0.50	0.72	0.83	0.35	4.07	4.5
25	Belgium	0.13	0.75	0.35	0.67	0.67	4.23	4.41
26	Ukraine	0.28	0.50	0.5	0.64	0.74	3.65	4.31
27	Philippines	0.16	0.50	0.36	0.75	0.64	3.02	3.97
28	Netherlands	0.35	0.50	0.4	0.5	0.7	3.81	3.62
29	Bolivia	0.29	0.50	0.52	0.71	0.54	3.68	3.51
30	United Kingdom	0.28	0.50	0.52	0.67	0.51	4.29	3.41

Table 2-7. Top 30 countries on decentralisation indexes²⁴

Indicator	Definition
LG RI	Relative importance of local government
LG SE	Security of local government existence
FDI	Fiscal decentralisation index
PDI	Political decentralisation index

²⁴ Source: Author. The data derived from a 182-country ranking by Ivanyna and Shah (2012).

ADI	Administrative decentralisation index
DI	Decentralisation index
GCI	Government closeness index

Table 2-8. Definitions of each indicator in the ‘Country Ranking: Decentralization indexes’²⁵

4.1.4 E-government areas at different levels of administrations

The e-government policies in China were launched in 1993. They include continuous plans and specific administrative regulations with a history of over 20 years. Also in 1993, the former U.S. Vice-President Al Gore coined the famous term ‘information superhighway’, which was considered as the start of building a high-speed network infrastructure. China started constructing its own information systems almost at the same time as the US. However, 20 years later, the latter has remained in the top 10 in international e-government rankings for at least 10 years. As introduced earlier in this literature review, the UN (2016) and Waseda-IAC (Waseda 2017a) both publish international E-government rankings periodically. According to them, China has been given a low rank in the past 10 years (around the 70th out of all 193 countries in the UN’s ranking, and the 44th out of 65 countries in Waseda’s ranking). Throughout the history of the Chinese government’s policies, various projects and plans aiming to facilitate e-government development have continuously been published, not to mention actual practice after the central administration’s policy-making. The following presents an overview of past strategies to provide a better understanding of the strategic efforts and implementation of e-government in China.

E-government initiatives in China first started in 1992, under the direction of the CCP, when the State Council general office initiated the ICT plan to build an office automation system (Tan 2013). Then, the following year China initiated the Three Golden Projects to build a sophisticated information network throughout the country. The names of the Three Golden Projects literally referred to a golden bridge, card, and

²⁵ Source: Author. The data derived from Ivanyna and Shah (2012).

gate ²⁶ to establish a fundamental national information infrastructure by building digital currencies, trading, and personal identification systems, among others. In 1999, the 'Government Online'²⁷ project was launched as one of the vital plans in the early phase to bring the central governmental departments and local governments of the first-level administrative divisions online (Zhou 2004). In December of the same year, the Chinese government founded an organisation called the National Information Leader Group, which consisted of the Vice Prime Minister and members of a standing committee. Since then, this organisation has become the top decision-making body for master plans, information policies, and standards of e-government in China (Tan 2013). Table 2-9 below presents the timeline of national e-government initiatives in China, although the official word 'e-government' only appeared in 2002. In addition, the table summarises existing laws, projects, general plans, and administrative regulation into three sections to gain a clearer impression of the entire development course. As introduced in section 2.2, e-government consists of four service areas: G2G, G2B, G2E, and G2C. In the actual implementation of e-government services, central government has distributed the tasks to different levels of administration. Figure 2-12 demonstrates the sections of e-government services at each level of administrative division. Though provincial governments still own some delivery of G2C applications, most of these applications are implemented at the local level; they can be divided into provincial and municipal projects, and the latter are dominant. In other words, national strategies are leading the way by formulating fundamental ICT development plans, after which local governments are launching various services under the central umbrella. For instance, 'Internet Plus' (2015), proposed by Prime Minister Li Kechang, is one of the latest economic and ICT national strategies aiming at utilising information trends to boost society development. In this strategy, the 'Internet + Government' urges governments to provide citizen-centred public services via ICT regarding public management, online healthcare, and citizen participation, among others. Many local governments have published their e-government projects according to the guidelines

²⁶ The original Chinese is “金桥，金卡与金关”.

²⁷ The original Chinese is “政府上网”.

Year	Name of Initiative	Section
1993	“Three-Golden” project	General Plan
1999	“Government Online” project	General Plan
2000	Tenth Five-Year Plan	General Plan
2001	National information system construction plan 2001-2005	General Plan
2002	“E-government construction” announcement	Instruction
2003	Foundation of national open information leader group	Regulation
2004	The law of E-Signature	Law
2005	“E-certification service” “central government portal site”	Regulation Instruction
2007	“Government Open information”	Regulation
2008	“Digital City Plan in 30 cities” “National E-government project-Archives Management”	General Plan Regulation
2009	“External internet construction of E-government” “Evaluation Indicators for government portal site”	General Plan Regulation
2010	“Website-domain-name security improvement” “Information development in rural districts Plan 2010~2012”	General Plan
2011	Twelfth Five Year Plan of National E-government “E-government platform charge specification” “Government Open information in county level based on E-government platform”	General Plan Instruction Regulation
2012	Twelfth Five Year Plan of National E-government information development	General Plan
2013	“Key business for Government Open Information” “National E-government construction improvement” “Opinion on Strengthening Open Government to Promote Public Credibility”	General Plan Regulation Instruction
2014	“Information for citizens Plan”	General Plan
2015	E-certification Regulation” “Internet Plus Strategy” The law of E-Signature (amendment 2015)	Regulation General Plan Law
2016	Thirteenth Five Year National Informalization Plan “Internet Plus Government Service”	General Plan Instruction
2017	“Guidance for Government Portal Development” “Guidance for technical system construction of “Internet Plus Government Service”	Instruction Instruction

Table 2-9. Timeline of major national e-government initiatives in China²⁸

²⁸ Source: Author

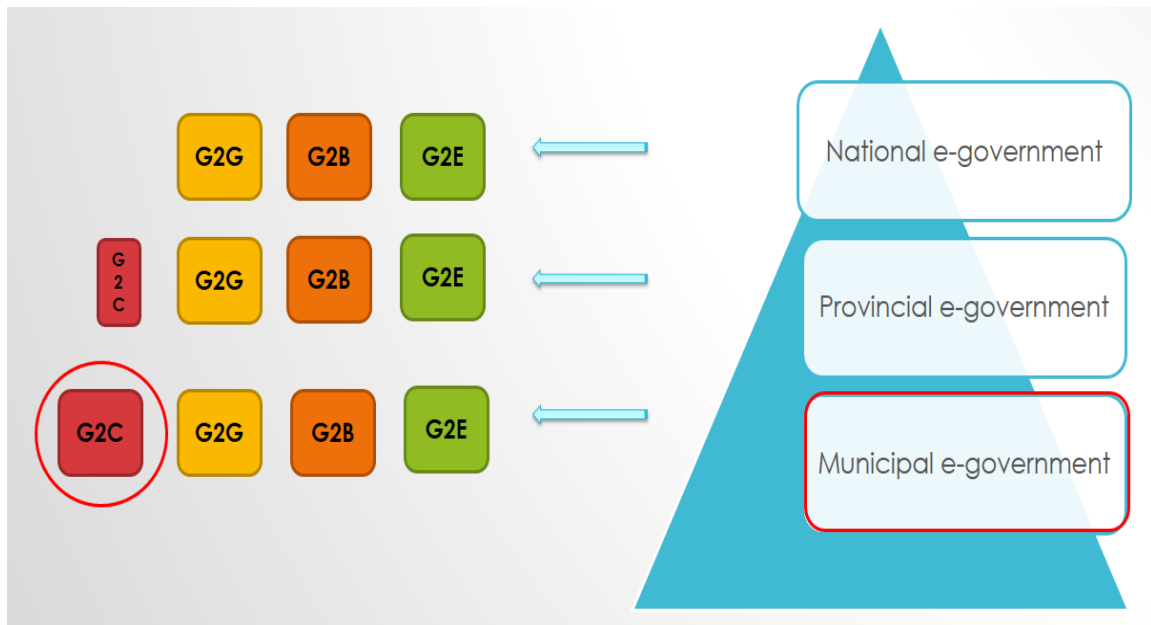


Figure 2-12. E-government services in the administrative divisions of the PRC²⁹

of this Internet Plus strategy, though they differ in local features. Hence, e-government services for citizens in China are kept at the municipal level.

4.2 Public-private collaborative e-service platforms

4.2.1 Mobile e-services on SNS platforms

E-services in China began on the government's official homepage, like in other countries, to provide public information regarding laws, regulations, news, etc. to citizens³⁰. Two decades later, e-services are available on multiple channels from online portals to government applications on smartphones, offering e-information, e-consultation, e-transactions, e-participation, and so on. As described above, e-services to citizens in China belong to local arrangements and differ between areas. This is different from national e-service provision using one-stop portals (for example: Canada, the US, Singapore) and unified departmental services (for example: NHS medical services in the UK, the e-procurement system in Japan). The Chinese system

²⁹ Source: Author

³⁰ This can be found in the earliest e-government plan "Government Online Project" in 1999.

enables local governments to promote valuable and suitable e-services to residents and to avoid wasting resources.

From Yang (2017)'s narrative of the revolution in local Chinese e-service, "under the guidance of the Internet Plus strategy, local governments have started a new style of service delivery in recent years. The well-known Chinese internet giants occupy social networking markets in the mainland – for example, 'WeChat' from Tencent and 'Weibo' from Sina. WeChat is a social medium encompassing instant messaging, e-payment, and blogging services, and 'more than a third of the time mainlanders spend on mobile internet is spent on WeChat' that reported "(Economist 2016; Yang 2017). Weibo is a micro-blogging social networking application similar to Twitter. It maintains an incredibly high usage rate among all population groups in Chinese mainland society. According to a report by QuestMobile, there were approximately 800 million and 400 million active users of WeChat and Weibo, respectively, ranked first and fourth among Chinese mobile apps at the end of 2016 (QuestMobile 2017).

In 2013, the General Office of the State Council published an administrative document called 'Opinion on Strengthening Open Government to Promote Public Credibility'³¹(GovCN 2013). This was the first official national document to mention 'Weibo Government' and 'WeChat Government'³². In 2014, the Office of the Central Leading Group for Cyberspace Affairs (also called Cyberspace Administration of China)³³ published administrative regulation titled 'Managerial Rules of Public Use of Instant Messaging' to serve as guidance for public sectors to offer governmental services on SNS platforms (CAC 2014). In 2015, Prime Minister Li Keqiang launched the well-known ICT national act named 'Internet Plus', in which 11 'Internet Plus' strategies were enacted to address key issues of social development including entrepreneurial innovation, collaborative industry, modern agriculture, smart energy, inclusive finance, public service, efficient logistic systems, e-commerce, convenient transportation, green ecology, and artificial intelligence (GovCN 2015). In this

³¹ The original Chinese is "国务院办公厅关于进一步加强政府信息公开回应社会关切提升政府公信力的意见".

³² The original Chinese is "微博政务" and "微信政务".

³³ The original Chinese is "中共中央网络安全和信息化领导小组". More information can be found in <http://www.cac.gov.cn/>

profound national act, the 'Internet + Public Service' section illustrated the vision of utilising the internet to build integrated online services including e-administration, e-consultation, and e-transaction in education, social care, health, city services, and so on. 'Utilising mobile e-platforms' was specially emphasised in this section, to show the government's determination regarding 'SNS e-governance'.

4.2.2. Weibo Government

In the trend of the Weibo Government public-private collaboration, local governments have been the most active in the participation. Sina-Weibo was created by Sina corporation in 2009, followed by Tencent's WeChat in 2010. 'Weibo' means 'microblog' in Chinese. Though accused of plagiarising the well-known SNS Twitter, Weibo updated and improved its functionality to a better level than its predecessor. Table 2-10 from Lyakina (2017)'s article shows how Weibo has evolved compared to Twitter.

	Weibo	Twitter
Content	140 words and pictures, videos, audios and emoticons	Only 140 words and pictures
General of language support	Chinese and part English	Multi-languages
Retweet/Comments	Can add personal comments	Can't add comment when retweet
Polls	Are displayed as tweets and can engage directly by clicking	Not yet
App center	Available in beta	Not yet
Game center	Available	Not yet
Groups	Available	Not yet
Photo album	Available	Not yet
In-house account analysis	Available	Not yet

Table 2-10. The main differences between Weibo and Twitter³⁴

According to this report, Weibo eventually attracted users due to several advantages, including its more media-rich interface, the availability of threaded comments for better feedback, micro-topics to help businesses increase brand

³⁴ Source: Reproduced based on Lyakina (2017)

awareness, and trend categorisation, among others (Lyakina 2017). However, the most remarkable innovation of Weibo compared to Twitter is its capacity to absorb government sectors. In the second half of 2009, County Taoyuan of Hunan Province created its official Weibo account, marking the beginning of Weibo Government, which was described as follows: 'Government utilizes its official account on Weibo platform to achieve open government, public-private interaction, reach public opinion and provide e-services' (Li 2012). By the end of 2016, 164.52 million government departments had launched their official accounts on the Weibo platform (Zhang 2017).

With the popularity of Weibo Government, more and more domestic scholars are starting to pay attention to this special phenomenon in the Chinese administration and politics. The first concern is the advantages or reasons for using Weibo Government. Weibo Government is said to be able to help the government reach public opinion and facilitate public scrutiny in return (Gao 2011). The functions of Weibo Government are summarised as 'information distribution; online enquiry; handling public complaints; collect public opinion; supervising government and anti-corruption' (Gao 2011). Regarding the public-individual communication that has been altered by Weibo, it is said that Weibo has fostered both 'point-to-point' and 'many-to-many' communication modes, instead of the traditional 'point-to-many' channel of the old media era. On the other hand, Weibo also enables citizens to participate in the decision-making process by posting and voting on public policy on the platform (Tang 2012).

Some scholars have highly appraised the role of Weibo Government in e-government development, for instance for expanding citizens' political participation, promoting a more democratic and deliberative decision-making process, and forcing the government to establish its public credit and anti-corruption policy (Wang 2013b). Weibo platform can contribute to e-government in such an effective way because it offers the fastest and most direct way of sharing information and interacting (Liu 2015). Li (2012) summarised the five models of Weibo Government as follows:

(1) Government press office³⁵. Many local governments choose to release their news directly on their official Weibo account, such as those accounts named 'xx fabu'

³⁵ The original Chinese is "政府信息发布厅模式".

³⁶. These accounts represent local municipal offices and publish local news, public announcement, and local policy, or even conduct live broadcasts of important events. For instance, the 'Shanghai fabu' account provides multiple channels called 'Micro-event', 'Micro-survey', and 'Micro-interviews' to interact with citizens, and also achieves a wider e-service delivery embedded in its message section. This type of Weibo Government account has improved the first phase of e-information in the e-government area by providing far more convenient and real-time information distribution.

(2) Government document-sharing platform³⁷ This is another reform that has occurred in the G2G area in China. On 2 April 2011, the city office of Haining in Zhejiang Province issued an administrative document to promote government document-sharing on the Weibo platform. Every local department of Haining can share and examine government documents by simply subscribing to other departments' Weibo accounts. Once the document is released on Weibo, relevant government departments can be notified immediately. Xian News commented that this move was 'expected to trigger a new generation of "Weibo Government"' (Li 2011). A limit of 140 words not only simplifies the public document into a clear and concise expression, but also saves administrative resources on needless conferences, forums, and other bureaucratic procedures.

(3) The window of government officers³⁸. Among the 164.52 million government Weibo accounts, 39,000 are government officers' personal accounts, including some top-ranking officials. Thus, citizens can easily approach the officer by commenting on and messaging his/her official account, leading to a narrowed distance between traditional bureaucrats and citizens. Furthermore, officers can receive feedback and reports from citizens directly, and post their opinions and private information on Weibo to gain public support. Though some question the 'performance' of such accounts, they still represent an innovation in the traditional Chinese political culture with a high power-distance.

³⁶ "fabu" is a Chinese verb "发布", means announce/release/publish.

³⁷ The original Chinese is "微博公文模式".

³⁸ The original Chinese is "官员微博模式".

(4) Public Security Bureau (PSB) office³⁹. According to the 39th China Statistical Report on Internet Development by the China Internet Network Information Center (CNNIC), PSB accounts represent the second largest proportion of accounts of Weibo with 16.4%, after public petition accounts (18.3%). The report further concludes that PSB accounts have a comparatively high influence in the Weibo space (CNNIC 2017a). The PSB can be considered as the most powerful sector in the local governance system in China due to its comprehensive authority over local affairs including policing, public security, transportation, migration, residence registration, and other local issues (Baidu 2017). The PSB accounts are used to share information and details about various cases to citizens, and in turn to obtain clues from the public. PSB accounts are responsible for a wide range of public service delivery compared to other government accounts.

(5) Public sentiment management⁴⁰. When a social emergency occurs, government accounts can be used to observe and handle public sentiment spread on the internet, for example to publish an official announcement to immediately address rumours and to share the latest information to avoid public panic (Li 2012).

According to Li (2013), Weibo Government can mitigate the digital gap by providing the cheapest and easiest way for all citizens to enjoy e-government services. This has benefited from the popularity of smartphones (Li 2013). Zhang (2012) supports the utilisation of Weibo Government as a G2C platform. He explains that besides the convenience and low cost of smartphones and the Weibo application, Weibo Government could replenish G2C functions with the advanced technology applied by commercial e-platform, compared to traditional e-services provided by the government sector. Moreover, Song (2013) considers that Weibo facilitates e-government innovation in China. The changes of information flow and communicational structure foster the media sector, civic groups, and public opinion, all of which require a more capable and accountable government (Song 2013). Wang (2013) shows a positive attitude towards the impacts of Weibo on e-government. The author states that government incurs the lowest cost by utilising the Weibo platform

³⁹ The original Chinese is “公安微博模式”.

⁴⁰ The original Chinese is “突发舆情应对模式”.

to acknowledge citizens' needs and to provide most needed e-services, thereby achieving a citizen-centric administration. Furthermore, Weibo Government can also help business process reengineering (BPR) in the government and streamline the procedure (Wang 2013a).

Though there are a mass of advocates for Weibo Government, doubt exists among domestic academics. In the early stage of Weibo Government, Gao (2011) questioned some governments for creating various official accounts without operational efforts. For instance, citizens received no actual response from the official account, instead obtaining an automatic reply. Furthermore, Chen (2013) expressed the following concerns about Weibo Government:

(1) The openness of the Weibo platform hastened the spread of rumours and fake government accounts. Government usually failed to eliminate the negative effects in time.

(2) The trend of adding Weibo government accounts to performance assessment of the public servants prompted their public stunt to attract attention instead of solving real problems for citizens.

(4) The cyber security issue of this non-governmental platform could not be ignored, and IT education was needed for public officers.

Zhang (2013) mentioned similar issues regarding Weibo Government:

(1) Citizens' opinions could be easily ignored or wrongly represented on the Weibo platform. A digital gap still existed, which prevented citizens without a sufficient online environment from voicing their opinions, while on the other hand internet users with advantageous online conditions might be treated as representing the whole civic society.

(3) Weibo Government could not ensure a complete improvement of administrative efficiency. Though the platform provided a much faster way of obtaining responses from the government, the key to increasing efficiency depended on a well-operated resource-scheduling system. Weibo could serve as no more than an information-delivery platform, and not a panacea.

(3) The limited word count on the Weibo platform made it difficult to present and discuss complicated social issues. Meanwhile, the privacy that citizens required in the

process of consulting the government was in contrast to the openness of the Weibo platform (Zhang 2013b).

Besides, Zhang et al. (2011) thought some government officers might need training on Weibo adoption due to their alarming IT literacy and lack of political ability to face citizens directly on the internet (Zhang and Shang 2011). Furthermore, Chen (2013) put forward the issue of a lagging legal framework for Weibo Government. Though some local governments realised the importance of legal support offered by regional regulations regarding Weibo Government, a professional legal system was still lacking to clarify the distribution of rights and obligations in this new e-service delivery (Chen 2013). In addition, Wang et al. (2013) questioned whether the lack of influence and leadership would weaken government accounts in leading public opinion, especially compared with those impactful non-governmental accounts. The rumours and fake news would spread faster than expected and beyond the government's control, in particular for local governments, who has a relatively weaker national influence on the internet. Wang et al. (2013)'s second concern regarded the collaboration between the government and Weibo corporation. Though Weibo Government has only existed since 2009, a long-term mechanism is needed to guarantee the durability and stability of the system, to avoid chaotic management of public administration and social affairs (Wang, Ding, and Zhu 2013).

These concerns raised by scholars are essential for the development of Weibo Government, but some have already been resolved with the increasing experience of government departments. For example, the Beijing municipal government published the 'Beijing Micro-Blog Regulation' in 2011 to require any citizens and organisations located in Beijing to submit their real information when applying for accounts on the Weibo platform (BJGov 2011). Since then, more and more governmental agencies and local authorities have brought out their own rules for managing users' behaviours on the platform. On 8 September 2017, Weibo released an official announcement to promote a 'real name registration'⁴¹ system for all of its users. This movement has been said to fight harmful rumours and fake information. No matter what, Weibo Government continues to shift e-government service delivery and social management

⁴¹ The original Chinese is “实名注册”.

of China in this digital era, which reminds the Chinese government to value the power of ICT in social changes.

4.2.3 WeChat Government

Following Weibo, WeChat released its public platform in August 2012. Some proactive government agencies attempted to register their official accounts on the platform to provide simple functions such as information distribution, organising events, and so on (Jiang and Hu 2014). Then, after WeChat updated its version to 5.0, the public platform was divided into ‘service accounts’ and ‘subscription accounts’, and has since then been extended to three types of public accounts. Table 2-11 was originally published by WeChat regarding the differences between these three public accounts.

As WeChat and Weibo are the two officially appointed SNS platforms for launching e-government services by the central authority (CAC 2014), some scholars are interested in comparing these two platforms. Xu et al. (2014) pointed out that the WeChat platform has no competitive advantage compared to Weibo concerning information dissemination due to its nature as a closed interaction environment. Especially regarding the characteristics of timeliness, frequency, and coverage, Weibo clearly exceeds WeChat. On the other hand, WeChat benefits from the stronger social bonds that a more individual-concentrated service can provide. Government accounts on the WeChat platform can send information and messages to each subscriber precisely (Xu and Song 2014). In another study, Jiang et al. (2015) emphasised the importance of distinguishing between the roles of Weibo and WeChat in the e-government area. What Weibo offers is succinct and rapid information sharing and spreading, and a public space for discussion. In contrast, WeChat furnishes a data-push system with elaborate information, which allows users to receive detailed messages from specific government accounts. All in all, regarding information dissemination, Weibo is better for breadth while depth can be better achieved by WeChat. Based on this distinction, the government could utilise Weibo Government to promote open data and public comments, and adopt WeChat Government to provide local service delivery (Jiang, Liu, and Liu 2015).

Account type	Subscription account		Service account		Corporation account	
Introduction	To provide a new information- dissemination medium for individuals		To provide a better service and user management capability for corporations and organisations		To help corporations and organisations with internal communication channels	
Target	Individuals and organisations		Not applicable to individuals		Corporations, government, public institutions, or other organisations	
Function-privilege	Normal subscription account	Subscription account authenticated by WeChat	Normal service account	Service account authenticated by WeChat	Normal corporation account	Corporation account authenticated by WeChat
Message directly delivered to friend list			✓	✓	✓	✓
Message shown in 'subscription' file	✓	✓				
1 group message per day	✓	✓				
4 group messages per month			✓	✓		
No limit for group messages						
Secret message cannot be forwarded					✓	✓
Authentication required before subscription					✓	✓
Basic information-receiving/replying interface	✓	✓	✓	✓	✓	✓
Customised menus	✓	✓	✓	✓	✓	✓
Customised applications					✓	✓
Advanced interface capability		Partially supported		✓		Partially supported
WeChat Pay – trade function		Partially supported		✓		✓

Table 2-11. Differences between subscription, service, and corporation accounts⁴²

In fact, WeChat Government provides a wide range of e-services which benefit from the platform. WeChat is a so-called a super-app which has the highest penetration rate among mobile applications in China, with 800 million monthly active users (MAU) (QuestMobile 2017). As the most powerful mobile social networking application in China, WeChat has gained the largest user group and continues to expand its service layers. In August 2016, the New York Times published a video titled

⁴² Source: Author. The data derived from WeChat (2017).

'How China is changing your internet'. In the video, WeChat is introduced vividly, along with an explanation of its popularity in Chinese society:

'WeChat is an example of, for lack of a better word, a super-app. It's a Swiss Army Knife that basically does everything for you, it's your WhatsApp, Facebook, Skype, Uber, Amazon, Instagram, Venmo and Tinder. But it's other things we don't even have apps for. There are hospitals that have built out whole appointment booking systems, investment services, there are even heat maps that show how crowded a place is, be it your favorite shopping mall or a popular tourist site. The list of services goes on basically forever. But it's not the variety of things you can do on WeChat that makes it so powerful, it's the fact that they're all in one app...' (Jonah M.Kessel 2016)

Because of the strength of the WeChat platform, local government is able to introduce various types of e-services to its official accounts. Since WeChat added public services to its platform in late 2014, its users have experienced unprecedented convenience in their daily life. Unlike Weibo, WeChat has combined government e-services fully with its existing platform functions, from messaging to payment (Hou 2014). As of the first half of 2017, there are mainly two ways to activate public e-services on WeChat: a unified city service platform providing dozens of public services in cities; and a mass of government official accounts on which citizens could check information and enjoy one-stop services from different departments. As shown in Figure 2-13 (a) (b), city service platforms can be easily accessed by pushing one button on the WeChat interface. Citizens can pay utility bills/fines, apply for administrative procedures such as visas and licenses, make medical appointments, check the weather and transportation information, etc. Then, by subscribing to official government accounts (Figure 2-25 (c)), citizens can experience mini one-stop services as with a traditional website portal, but in a simpler and streamlined way.

As indicated in the literature, WeChat has many advantages in terms of local e-government service delivery. According to Zhu (2013), the success of WeChat Government is due to the following factors: first, WeChat Government can ensure accurate information-passing; second, WeChat Government offers a space where



Figure 2-13. Interfaces of WeChat governmental e-services (mobile version)⁴³: (a) Public city- service platform embedded in “wallet” function of WeChat application; (b) Interface of public city-service platform on WeChat; (c) Interface of government official account on WeChat.

citizens can communicate with government equally because of the corresponding feature of public accounts; and third, WeChat Government provides a true 24/7 service-delivery. For example, the official account of ‘11185 Guizhou Zizhu Chegiansuo’⁴⁴, which represents the PSB of Guizhou Province, offers all the citizens in Guizhou self-services regarding transportation affairs. Citizens can receive the latest news on local transportation, apply for a driver’s license, make reservations for annual vehicle inspections, and make use of 13 other local transportation services. Moreover, each government department can implant its own e-services with local features according to the needs of residents, such as ‘WeChat Wanted-Poster’, ‘WeChat Parking’, and ‘WeChat Rescue’ (Zhu 2013). Zhang et al. (2016) argue that WeChat Government has been recognised and accepted by citizens easily due to two reasons: first, WeChat Government represents authority but on a commercial platform; and second, citizens can choose necessary local government accounts instead of learning

⁴³ Source: Author

⁴⁴ The original Chinese is “11185 贵州自助车管所”.

all the administrative systems. A 'point-to-point' service style is simple and easy for users to follow (Zhang and Liu 2016).

In another study, Zhao (2016) discussed the role of WeChat Government in fostering citizens' interest in public commentary and e-participation. Traditional media have taught the audience to receive news and opinions passively. Even the Weibo platform, which was born in the digital era, gives users a comfortable environment to gather and watch. In contrast, WeChat Government provides citizens with a channel to interact with the government deeply and effectively (Zhao 2016). Although the nature of Weibo Government as non-participatory is arguable, the endorsement for WeChat's strength is understandable. Xue (2014) introduced the creative idea for WeChat Government to utilise SNS functions in e-government such as 'QR codes' and 'Shake It Off' to strengthen its convenience, interactivity, and user loyalty (Xue 2014). Scanning a QR code is a common way to add a friend to mobile chat apps; however, with QR codes posted everywhere, citizens can also easily reach the local government's account on WeChat. This is a particularly easy way to promote local e-government service to citizens, because Chinese citizens are more familiar with WeChat in their daily life than any other applications.

The precision of distributing important information to citizens using WeChat Government has also been mentioned in the literature. Compared with Weibo, all the subscribers of government accounts on WeChat receive messages from those accounts without delivery errors (Xue 2014). Furthermore, Chang et al. (2015) emphasised the potential of WeChat e-payment in e-government services (Chang and Yang 2015). It took only a few years for WeChat Government to fuse WeChat-Pay into its e-service system. For example, a citizen can use WeChat to pay the application fee for a visa and passport; moreover, utility fees, fines, and other transactions with government departments can also be completed via the WeChat platform.

Some scholars have focused on the local characteristics of WeChat Government in providing e-services to citizens. Mao et al. (2016) have suggested that WeChat Government should concentrate on designing local e-government services according

to citizens' needs. Benefiting from the technical innovation and user base of the WeChat platform, local government could deliver a comprehensive e-service system on WeChat at a much lower cost than inventing its own website and mobile app. Furthermore, according to Liu (2015), WeChat Government is a more locally based e-service system than a national application. Government executives should realise the importance of exploring local citizens' requirements to design WeChat e-services, without wasting public resources on impractical programs. As discussed in section 2.x, most of the G2C practice is implemented at the local government level, and not by the central authority. As an important component of G2C, WeChat Government is expected to facilitate a better e-service delivery for local citizens, thereby shifting China's e-government into a fast-changing age. According to Kuang (2016), the main audience of WeChat Government is local citizens. Though some government accounts seem to have massive numbers of subscribers from all over the country, their e-service delivery is not as highly evaluated as that of other accounts. A truly good WeChat Government must deliver functional local services to satisfy citizens instead of presenting plausible content (Kuang 2016).

On the other hand, some authors have also highlighted the deficiencies of the WeChat Government experience. For instance, Liu (2016) observed the official account 'Ping'an Beijing'⁴⁵ of the Beijing PSB office and tested its service delivery. The government's account sent content to citizens that included unnecessary entertainment information, which might lead to a weakened attraction of the account for citizens. Furthermore, it did not respond to social emergencies (Liu 2016). Xu (2014) also investigated both the subscription accounts and service accounts of the Beijing municipal government. The author regarded the lack of professional operators with advanced ICT and communication skills as the reason why some department accounts could not offer satisfactory responses and effective service delivery to citizens (Xu and Song 2014). Moreover, Zheng (2016) found that the fundamental cause of failure of local WeChat Government accounts was a disordered managerial mechanism of those accounts. There was no clear legal and policy preparation to support the daily

⁴⁵ The original Chinese is "平安北京".

operation of WeChat government accounts, resulting in vague boundaries of rights and liabilities. Many local departments either fought to open their own accounts without integrating useful services together with other agencies, or escaped from shouldering the responsibility of maintaining WeChat service delivery (Zheng 2016). Shao et al. (2016) observed the same situation: a clear and efficient internal mechanism for WeChat Government was missing to ensure the function of those official accounts. Without a collaborative system in G2G, WeChat Government would become a decoration of no practical use in the name of e-government. Meanwhile, the gap between different government accounts would be enlarged (Shao, Wang, and Wang 2016). In another study, Liu et al. (2015) pointed out three difficulties of WeChat Government:

(1) The leaders of government departments cannot adapt to the new service delivery style brought by the WeChat platform, which is a shift from traditional bureaucracy. A successful operation of WeChat Government requires a brand-new administration associated with a citizen-centric base, as well as less privilege and more transparency. Without a smooth transition to a service-oriented government, WeChat Government will remain an empty shell.

(2) Confusion regarding WeChat Government's purpose will lead to failure, no matter how large the investment of public resources. Since WeChat and Weibo are increasingly valued by the Chinese government, some departments have made quantitative objectives referring to their number of subscribers and views. This has caused some official accounts to busy themselves with attracting readers and followers using sensational posts. To attract as many followers, the official accounts have focused on producing hot topics, similar to business accounts. Thus, the real purpose of WeChat Government, that is, to provide local citizens with well-designed e-services, has been neglected under the partial assessment system.

(3) The lack of systematic coordination of internal resources causes managerial disorder, in line with above scholars' opinions. For instance, the most common function of government accounts is providing e-information, which at least involves operating an office, a publicity office, and an IT information centre. A fluent delivery of e-information can hardly be done without cooperation between these sections. In

the practice of WeChat Government, there is still no consensus regarding workflow in many local governments (Liu and Liao 2015).

With regard to the promotion of WeChat Government, several authors have noticed the importance of citizens' perception and adoption. Yang (2015) was the first to investigate the usage and satisfaction of WeChat Government users. An empirical study was conducted in Guangzhou municipality to explore local citizens' perceptions of WeChat Government. This yielded five dimensions of needs, which are listed in Table 2-12 below.

Dimension of needs	Detail
Information need	Obtain government information (municipal office, PSB, emergency, etc.)
	Obtain work/life/entertainment information
Service need	Self-service enquiry
	E-service (reservation, etc.)
Participation need	Participate in public decision-making and politics
	Participate in social supervision (inform illegal behavior, crime, etc.)
Social need	Increasing visibility and social status
	Consolidating social network and maintaining connection
	Expanding social network
Emotion need	Curiosity (longing for experience of latest technology, etc.)
	Conformist mentality
	Obtaining sense of security (eliminating rumors, etc.)

Table 2-12. Users' needs regarding WeChat Government⁴⁶

Wu (2014) suggested that local government should organise a professional team to promote WeChat Government to citizens. Every operating officer should be trained to edit content and communicate with citizens, since their behaviour represents their department in the eyes of citizens (Wu 2014). Furthermore, Liu et al. (2015) stated that local government should assess citizens' satisfaction with WeChat Government and the value they perceive it to have. Though there seems to be rapid growth in the number of government accounts opening on the WeChat platform, citizens' satisfaction has declined because of the poor quality and insubstantial content of these accounts. To provide a satisfactory e-service, local government could conduct background research before designing WeChat official accounts to address citizens' most urgent needs. Further, local government should proactively promote itself to

⁴⁶ Source: Reproduced based on Yang and Song (2015).

'customers' (citizens) by combining multiple e-channels (portal site, mobile app, WeChat, Weibo) in the promotion of e-services (Liu and Liao 2015). In their study, Zhang et al. (2015) focused on the necessity of raising users' awareness of and loyalty to WeChat Government. According to the operating officer of the government account 'Lianjie Guangzhou'⁴⁷, which belongs to the Discipline Committee Bureau (DCB) of Guangzhou, citizens' lack of awareness of the account is currently the account's main problem. To address this, the authors mentioned that a publicity campaign and social events could be considered as useful tools to promote WeChat government accounts. Meanwhile, local governments need to form a professional team to operate WeChat Government with both technological and managerial preparedness (Zhang and Cao 2015). In this vein, Wu (2015) proposed a triangle model for operating WeChat Government; this model is shown in Figure 2-14 below.

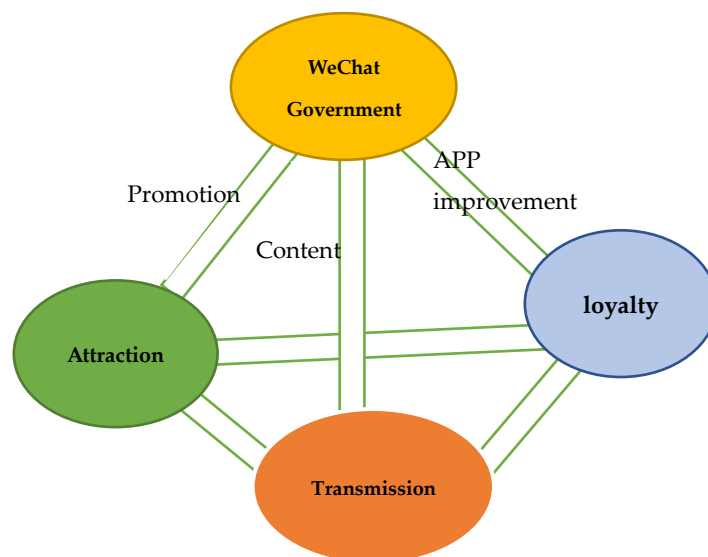


Figure 2-14. Triangle model of operating WeChat Government⁴⁸

In the model, attraction, transmission, and loyalty are considered as the determinants of a successful WeChat Government. Attraction is seen as the fundamental task throughout the operation, since e-service delivery cannot be achieved without active users. To promote WeChat Government, the author recommends that local government should combine two methods:

⁴⁷ The original Chinese is “廉洁广州”.

⁴⁸ Source: Reproduced based on Wu (2015).

(1) Utilising administrative power to reach citizens. Local authority could command subordinate units to approach citizens with their rich experience of communicating with local residents. In the meantime, the use of WeChat Government could be mandatory in certain circumstances. For example, the Youth League Committee (YLC) of Zhejiang Province recruited volunteers on its WeChat official account 'Qingchun Zhejiang'⁴⁹. The account was the only place for candidates to submit their application. By means of this action, over 100,000 users subscribed to YLC's WeChat account within a month. Though mandatory use is not a panacea due to the protection of citizens' freedom in adopting e-services, it has an immediate and practical effect in the short term.

(2) As a long-term effort, local governments could learn from the non-governmental sector to promote WeChat accounts. Besides government, corporations, social organisations, and even individuals are allowed to create public accounts on the WeChat platform. Local government could learn from these rich experiences with promotion. For instance, a local department could organise public events to encourage citizens' engagement, provide lottery tickets or coupons to active users, etc. Compared to private sectors, the strength of the government is its ability to integrate social resources in promotion. Thus, local government may achieve successful promotion using both administrative and market-oriented methods (Wu 2015).

Finally, several studies have also emphasised the combination of WeChat and Weibo Government in local e-government service delivery. According to Liu (2016), government should continue to lead public opinion on the Weibo platform while providing solid local e-services on WeChat (Liu 2016). Xu et al. (2014) stated that it is important to connect WeChat Government to Weibo and the portal site because they all have their own strengths in satisfying citizens' various needs. In the meantime, a convenient link between the applications could attract more citizens, since individuals may go to their preferred platform at the very start but move to other applications too if simple access is provided (Xu and Song 2014). In a similar vein, Chang et al. (2015) illustrated how to fuse WeChat and Weibo in e-service delivery. For instance, local governments could forward citizens' complaints and reports received on the WeChat

⁴⁹ The original Chinese is "青春浙江".

platform to their Weibo account, to use the openness and rapid information-dissemination of Weibo to attract citizens to the process of supervision. On the other side, governments could communicate with specific individuals on the WeChat platform to protect privacy (Chang and Yang 2015). Fang et al. (2015) argued that WeChat Government could be easily integrated with existing e-government applications at a low cost (Fang and Chang 2015).

5. Findings from the literature review

This section presents the main findings of the above review of the literature on e-government promotion. These findings help to narrow the analytical scale of this study and to focus on the research gap left by existing works.

5.1 Lack of research on e-government promotion

Previous public marketing theory has painted a picture of applying marketing concepts and tools to public sectors while providing systematic explanations. Scholars such as Philip Kotler have put forward motivations for public bodies to employ marketing strategy in the pursuit of effectiveness and citizen value/satisfaction (Van der Hart 1990; Lee and Kotler 2006). The promotion mix, as a sub-set of the marketing mix, has been introduced to the public marketing field with certain variables suitable for the public sector. The main dimensions of public promotion include publicity, advertising, personal selling, and sales promotion (Titman 1995). The public marketing theory serves as a theoretical foundation to discover promotion strategies in the e-government field in the present study. Nonetheless, though the public marketing theory provides theoretical support for discussing the rationale of e-government promotion, there still lacks an explicit model of explaining both the structure and function of this phenomenon.

Regarding the study of e-government promotion, Chan et al.'s (2008) work provides an exemplary definition as 'any activities or initiatives undertaken to promote the adoption and usage of the e-government infrastructure as well as the associated information content' (Chan, Lau, and Pan 2008). Besides the promotion case

of the Singapore government introduced by Chan et al. (2008), some other nations have also been reported to have experience using promotion tools in e-government. Their objectives and promotional activities are summarised in table 2-13. Awareness is found to be the fundamental goal in the practice of e-government promotion in these countries. Furthermore, three kinds of promotional variables have been identified – advertisement, publicity, and sales promotion – though the detailed activity forms differ between regions.

Nation	Objectives	Promotional Activities	References
United Kingdom	Awareness	<ul style="list-style-type: none"> ◆ Advertisement: Radio Press 	(Cross 2006)
Singapore	Awareness, Adoption	<ul style="list-style-type: none"> ◆ Advertisement: Printed media (newspapers) Radio Public billboard ◆ Publicity: Road shows Exhibition ◆ Sales Promotion: Price-down Time-cost-down 	(Chan, Lau, and Pan 2008)
Dubai	Awareness, Adoption	<ul style="list-style-type: none"> ◆ Advertisement: Printed media (newspaper, press, magazine) Online ◆ Publicity: Road shows Competitions Community events 	(Sethi and Sethi 2008)
Brunei	Awareness	<ul style="list-style-type: none"> ◆ Advertisement: Printed media (newspaper) Press releases Public Billboard Information kiosk, Tel Online Radio, Television 	(Jait 2012)

		<ul style="list-style-type: none"> ◆ Publicity: Road show Seminar Conference 	
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Table 2-13. E-government promotion cases reported in different regions⁵⁰

However, though e-government promotion activities have been observed in these cases, there is still a lack of systematic analysis on the structure of promotion in the e-government area. What are the objectives of e-government promotion in general? What kinds of promotional activities are suitable for e-government promotion? Considering that public marketing has offered a useful theoretical base for this situation, a comprehensive study on the e-government promotion mechanism may help to enhance the understanding of this phenomenon.

Based on sorting out and analysing previous studies, this research proposes a definition of e-government promotion as:

A series of activities conducted to promote e-government service to target audience, aims to increase the awareness and adoption of government e-channels⁵¹.

5.2 The limitations of previous models in explaining the impacts of external factors on citizens' behaviours

The vast majority of studies regarding citizens' behaviours towards e-services borrow knowledge from technology acceptance and behaviour models such as the TRA, TAM, TPB, MPCU, and UTAUT. These models emphasise the internal relationships between individual's perception-related variables, while external factors are only simplified to be vague, without specific items. For instance, the determinant of PEOU and PU in TAM is simply called 'external variables'; and the UTAUT divides the external factors in predicting behavioural intention into 'social influence' and 'facilitating conditions' without explaining the dimensions of such determinants. Some models such as C-TAM-TRB even fail to analyse the influence of outsiders at all.

⁵⁰ Source: Author

⁵¹ Source: author

Moreover, these models ignore other important behaviours of citizens towards e-government service, such as awareness and satisfaction, which are considered to be crucial elements for measuring e-government success. From the review of the literature regarding citizens' behaviours towards e-government, it is clear that many researchers have tried to identify the importance of citizens' cognitive behaviours towards e-services such as awareness, intention to use, and adoption. However, few have examined how governmental activities can directly affect these factors. A relatively under-studied approach, the effect of promotion, could address this gap.

Based on the findings above, it is necessary to advance a comprehensive model integrating the impacts of external factors and all the vital behavioural factors regarding e-government.

5.3 The potential connection between citizens' behaviours and promotional activities

As discussed in 2.4 of literature review, several citizens' behaviours towards e-government services are frequently discussed as perceived ease of use, perceived usefulness, intention to use, actual adoption, and satisfaction. Some of these factors overlap with what government pursues during e-government promotion activities. For instance, citizens' awareness and adoption of e-services are identified as crucial elements on both sides. This overlap shows a potential connection between the studies on citizens' behaviour and e-government promotion (see figure 2-15), but so far, less

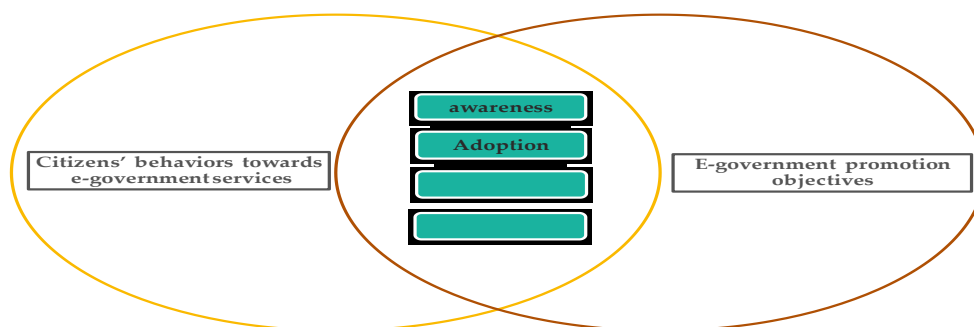


Figure 2-15. The potential connection between citizens' behaviours towards e-government services and e-government promotion objectives⁵²

⁵² Source: Author

efforts have been made to incorporate all these factors into one model. Hence, the present study takes into consideration both sides to propose a sophisticated model of e-government promotion.

5.4 Public-private collaborating SNS e-service platforms in China

In recent years, a new type of local e-service delivery has been processed in China. Under the guidance of the Internet Plus Strategy in 2015, 'Utilising mobile e-platforms' was specially emphasised to show the government's determination in developing 'SNS e-governance'. WeChat Government and Weibo Government are the two trials in this trend, representing the collaboration between local government and private internet companies Tencent and Sina. Except for the obvious advantages such as effectiveness, efficiency, and lower cost brought by these SNS, this type of e-service delivery has integrated commercial applications with public services into a unified platform, which is also a unique case of e-government development with SNS utilisation. In addition, the knowledge and experience of dealing with customers from private sectors can help the government sector to communicate more smoothly with its customers: citizens. In the context of e-government promotion, WeChat and Weibo may provide innovative marketing tools to increase users' awareness and adoption of e-services than other service channels.

All in all, the case of Chinese SNS e-service platforms deserves closer observation. This study aims to provide a deep understanding of the Chinese local e-government case to contribute to the existing e-government research.

Chapter 3 Research Approach

1. Research design and rationale

1.1 Mixed research methods

To address the research questions raised in the previous chapter, this study used mixed methods and an exploratory design. Researchers have a wide range of choices in terms of research methods in the social, psychology, and human sciences. Both qualitative and quantitative analysis have their own advantages and limitations in achieving research objectives. As research designs developed, scholars began to seek the possibility of using more than one method in one study.

Mixed methods research emerged from this trend. Creswell and Clark (2007) elaborated the design and procedure of mixed method research in 2007, and their work has become a guideline for many researchers from diverse disciplines who are interested in this approach. The authors presented a brief history of mixed research methods based on a sketch from Tashakkori and Teddlie (1998). Table 3-1 presents the four stages of the development of mixed methods research: the formative period, the paradigm debate period, the procedural development period, and the advocacy as a separate design period. Although there are still debates regarding positioning mixed methods research alongside qualitative and quantitative approaches, merging the two approaches in analysis has become increasingly popular.

Stage of Development	Authors (Year)	Contribution to Mixed Methods Research
Formative period	Cambell and Fiske (1959)	Introduced the use of multiple quantitative methods
	Sieber (1973)	Combined surveys and interviews
	Jick (1979)	Discussed triangulating qualitative and quantitative data
	Cook and Reichardt (1979)	Presented 10 ways to combine quantitative and qualitative data

Paradigm debate period	Rossmann and Wilson (1985)	Discussed stances towards combining methods--- purists, situationists, and pragmatists
	Bryman (1988)	Reviewed the debate and established connections within the two traditions
	Reichardt and Rallis (1994)	Discussed the paradigm debate and reconciled two traditions
	Greene and Caracelli (1997)	Suggested that we move past the paradigm debate
Procedural development period	Greene, Caracelli, and Graham (1989)	Identified a classification system of types of mixed methods designs
	Brewer and Hunter (1989)	Focused on the multimethod approach as used in the process of research
	Morse (1991)	Developed a notation system
	Creswell (1994)	Identified three types of mixed methods designs
	Morgan (1998)	Developed a typology for determining design to use
	Newman and Benz (1998)	Provided an overview of procedures
Advocacy as separate design period	Tashakkori and Teddlie (1998)	Presented topical overview of mixed methods research
	Bamberger (2000)	Provided an international policy focus to mixed methods research
	Tashakkori and Teddlie (1998)	Provided a comprehensive treatment of many aspects of mixed methods research
	Creswell (2003)	Compared quantitative, qualitative, and mixed methods approaches in the process of research
	Johnson and Onwuegbuzie (2004)	Positioned mixed methods research as a natural complement to traditional qualitative and quantitative research

Table 3-1. Selection of important authors in the development of mixed methods research and their contribution⁵³

⁵³ Source: Reproduced based on Creswell and Clark (2007)

Although it might seem that mixed methods research simply means using both qualitative and quantitative methods in a study, numerous classifications presenting different terminology and disciplines of mixed methods research can be found in the past literature. Not only the combination but also the weight of qualitative and quantitative methods matters in diverse classification. Based on previous studies, Creswell and Clark refined four major types of mixed methods designs: the triangulation design, the embedded design, the explanatory design, and the exploratory design (see table 3-2). Every classification has its sub-categories that differ from each other regarding the specific procedure and emphasis. Creswell and Clark also propose a logic to decide how to design mixed methods research.

Design Type	Variants	Timing	Weighting	Mixing	Notation
Triangulation	<ul style="list-style-type: none"> ● Convergence ● Data transformation ● Validating quantitative data ● Multilevel 	Concurrent: quantitative and qualitative at same time	Usually equal	Merge the data during the interpretation or analysis	QUAN+QUAL
Embedded	<ul style="list-style-type: none"> ● Embedded experimental ● Embedded correlational 	Concurrent or sequential	Unequal	Embed one type of data within a larger design using the other type of data	QUAN(qual) or QUAL (quan)
Explanatory	<ul style="list-style-type: none"> ● Follow-up explanations ● Participant selection 	Sequential: Quantitative followed by qualitative	Usually quantitative	Connect the data between the two phases	QUAN-qual
Exploratory	<ul style="list-style-type: none"> ● Instrument development ● Taxonomy development 	Sequential: Qualitative followed by quantitative	Usually quantitative		QUAL-quan

Table 3-2. The major mixed methods design types⁵⁴

1.2 The exploratory design in this research

Based on the research problems and research questions in this study, an exploratory design in mixed methods research was adopted following Creswell and

⁵⁴ Source: Reproduced based on Creswell and Clark (2007)

Clark's decision tree. The exploratory design has two common variants: the instrument development model and the taxonomy development model (Creswell and Clark 2007). These two designs are distinguished by the connection of qualitative and quantitative approaches. In the instrument development model, qualitative findings are used to formulate items and scales for quantitative survey instruments, while in the taxonomy development model the stage of qualitative analysis establishes a taxonomy or theory that should be examined in the subsequent stage of quantitative analysis. The structure of exploratory design is presented in figure 3-1.

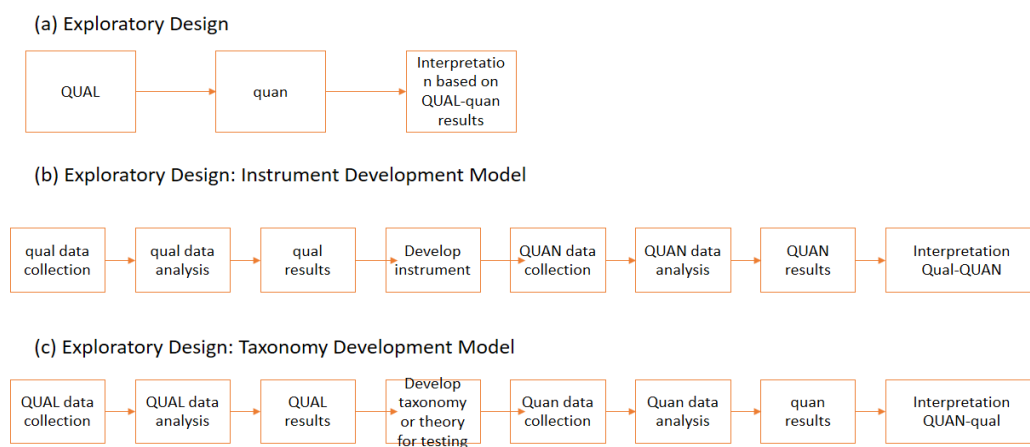


Figure 3-1. The structure of exploratory design⁵⁵

Returning to the topic of this research, this study addressed e-government promotion to citizens and its impacts. The purpose of this two-phase (qualitative and quantitative analysis), exploratory sequential design was to explore activities/dimensions and objectives of e-government promotion with providers' views, and to test the instrument and impacts with a sample of citizens from a Chinese municipality (Chongqing). The first phase starts with a qualitative exploration of what governments expect from conducting promotional activities regarding e-government

⁵⁵ Source: Reproduced based on (Creswell and Clark 2007)

services to citizens, and in what ways they choose to implement this promotion. This is done by collecting in-depth interview data from government officers in charge of e-government services. The results of the first qualitative analysis leads to the development of a model of e-government promotion. This model serves as a hypothesis of this research as well. The second, quantitative phase then follows up on the qualitative phase by testing the hypothesised model using data collected from large sample of local citizens in Chongqing. Qualitative data was initially collected in the first phase because there was no previous instrument to define governments' activities in promoting e-government services to citizens and assess the impacts of this process.

Figure 3-2 presents the structure of this study's exploratory research design. As the literature shows, there are two main phases across the whole process: qualitative and quantitative analysis. These are connected by a crucial stage: converting qualitative results into a conceptual model to be tested and justified using the quantitative evidence. The literature review revealed that there are few guiding taxonomies and existing instruments regarding the structure and evaluation system of governments' promotional activities for e-government services. This study's exploratory design could provide a logical understanding of promotion by firstly deeply examining the government sides, and then using that to formulate a conceptual framework. Finally, quantitative testing should provide solid evidence to prove the validity of the hypothesised model. The process of research is introduced in figure 3-3.

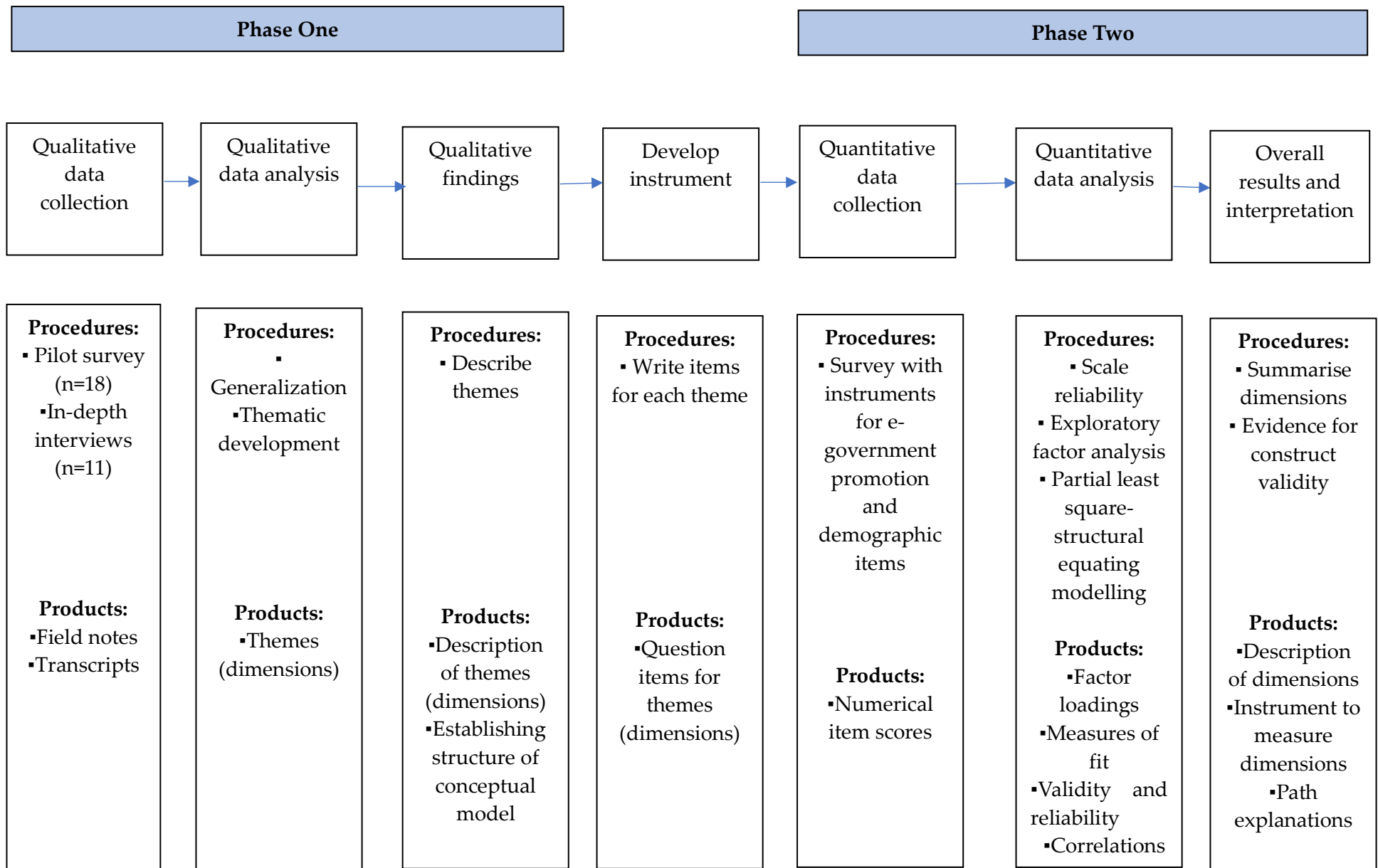


Figure 3-2. Procedures of the exploratory research design of this dissertation

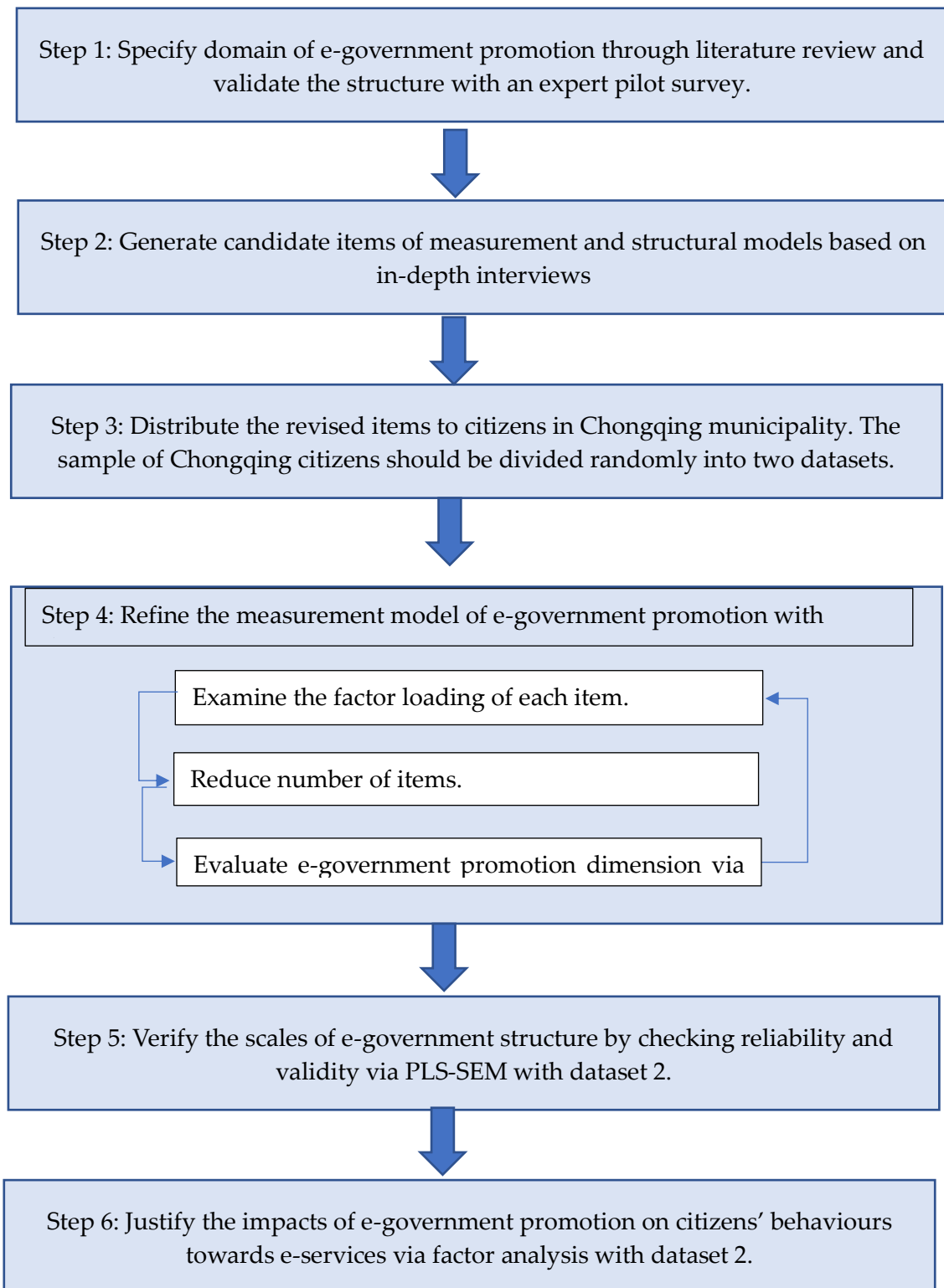


Figure 3-3. Research process of this dissertation

2. Research methods

2.1 Qualitative research

2.1.1 pilot survey

There are two research methods are adopted in phase one as pilot-survey and in-depth interviews. Pilot survey is frequently applied before the formal test in order to avoid wasting of resources or an inadequately research project (Haralambos 2000). Pilot survey is also used to test the direction and full scale of the research experiment that can be adjusted afterwards. It should be conducted in a small scale with the planned design before main study. There are several reasons to employ a pilot survey as:

- (1) to test the research process and/or protocol;*
- (2) to identify variables of interest and decide how to operationalize each one;*
- (3) to test methodological changes to implementation or administration of an instrument and/or train personnel on the administration of instruments;*
- (4) to develop or test the efficacy of research instruments and protocols;*
- (5) to estimate statistical parameters for later analyses (Payne 2015).*

In this research, pilot survey is designed for having a preliminary understanding of e-government promotion, used as reference for in-depth interviews. Therefore, there are only two questions raised in the questionnaire regarding to the very nature of promotional activities during the delivery of e-government services, which are: why do governments need promotional activities and how do they conduct the procedure.

2.1.2 In-depth interview

In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation (Boyce and Neale 2006). It is one of the most commonly used qualitative methods for its effectiveness and directness of collecting data. The advantages of in-depth interview are that, it is very effective in giving a human face to research problems; secondly, conducting and participating in interviews can be a rewarding experience for participants and interviewers alike (Mack et al. 2005). Moreover, During the in-depth interview process, the Interviewers may have much more opportunity to ask follow-up

questions, probe for additional information, and circle back to key questions later on in the interview to generate a rich understanding of attitudes, perceptions, motivations, etc; the interviews can also monitor changes to tone and word choice to get a deeper understanding (Colson 2017).

In this research, in-depth interviews are conducted to figure out e-government promotion in the practice of current administrations, serving as evidences as well for conceptual model regarding promotion in e-government area. Though the first two research questions are tested in the pilot survey as “the objectives” and “pattern” of e-government promotion, it needs a thorough approach to these fundamental items for building a comprehensive framework of promotion. The reason why in-depth interviews to the government side are important is because of its empirical value beyond the theoretical discussions on the possibility of implanting marketing theory in the governing process. Through this attempt to get close to the facts of governments’ promotional actions, a model consists of each aspect of e-government promotion is expected to be established and able to be testified by quantitative data.

2.2 Quantitative research

2.2.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis is one of the most widely used statistical procedure of factor analysis. It is usually used to uncover the underlying structure of a large set of relevant variables. Exploratory factor analysis is commonly conducted as the first step of factor analysis, aims to develop a scale and serve to identify a set of latent constructs underlying a battery of measured variables (Fabrigar et al. 1999). It is applied in the situation when researcher has no previous references for defining the factor and variable. In this occasion, EFA helps to determine the number of fundamental influences underlying a domain of variables, to quantify the extent to which each variable is associated with the factors (Cudeck 2000). After gathering all the potential variables into the Analytical process, it is believed that any measured indicator would belong to certain factor. With the result of factor loadings, the factor influence on measured variable would be distinguished and interpreted. The researcher may decide to reduce the item based on lower factor loading or irrelevance with the identified factor.

For this research, Principle Component Analysis (PCA) with promax (oblique) rotation in SPSS is used to reduce items and formulate factor structure of e-government promotion. The

question item has to be eradicated in the case if it had low factor loading or performed highly on more than one factor. The final result of EFA can be served as the hypothetical scale for the next confirmative factor analysis.

2.2.2 Partial Least Square-Structural Equation Modeling (PLS-SEM)

Partial Least Square (PLS) is a Structural Equation Modeling (SEM) technique based on an iterative approach that maximizes the explained variance of endogenous constructs (Fornell and Bookstein 1982). The PLS-SEM is usually used to estimate complex cause-effect relationship model armed with latent variable and measurement item. The PLS-SEM is composed of two sub-models as the measurement model and structural model. The measurement model explains the relationships between latent variable and measurement item while the structural model illustrates the relationships among latent variables. The popularity of PLS-SEM comes from its availability to estimate both the multiple cause-effect relationship model (relationship between latent variables) and the measurement of latent variables (Vinzi et al. 2010). The multiple-regression character makes PLS-SEM particularly valuable for exploratory research purposes as:

PLS is primarily intended for research contexts that are simultaneously data-rich and theory-skeletal. The model building is then an evolutionary process, a dialog between the investigator and the computer. In the process, the model extracts fresh knowledge from the data, thereby putting flesh on the theoretical bones. At each step PLS rests content with consistency of the unknowns (Lohmoller and Wold 1980; Joe Jr et al. 2014).

Nowadays, PLS-SEM has been accepted by a variety of disciplines gradually such as accounting (Lee et al. 2011), strategic management (Hair, Sarstedt, Pieper, et al. 2012), management information system (MIS) (Ringle, Sarstedt, and Straub 2012), and marketing (Hair, Sarstedt, Ringle, et al. 2012), etc. Researchers utilize PLS-SEM to justify their theories by testing hypotheses and proposed model. Another advantage for adopting PLS-SEM is being able to include formative measurement scale into the model. Unlike reflective measurement, the formative scale can calculate items as the latent construct is determined as a combination of indicators (Coltman et al. 2008). Therefore, a formative variable such as socio-economic factor can be identified together with path analysis.

This research adopts PLS-SEM as the last step of research analysis to confirm whether the

hypothesized model is consistent with present data. The full model of e-government promotion contains both measurement model and structure model. The measurement model aims to confirm the inherent structure of e-government promotion, to ensure the expressivity of observed indicators (items) on one unified factor: promotion. The structure model is designed to justify the impacts of e-government promotion on citizens' behaviours towards e-services.

3. The status of local e-government in Chongqing

3.1 General information about Chongqing

Chongqing is one of the four direct-controlled municipalities in China, with a large population of approximately 33 million in 2015 (NBS 2015). In 1997, Chongqing was appointed to be separated from Sichuan Province, and became the youngest central-controlled municipality from a former sub-provincial city. As shown in Table 3-3, it ranked 22nd out of 31 provincial administrations, excluding Hong Kong and Macau, in the 2015 GDP ranking, and was the last of the four direct-controlled municipalities. As of 2016, Chongqing has 38 sub-administrations of which 26 are districts (qu), 8 are counties (xian), and the remaining 4 are autonomous counties (zizhixian) (MCA 2017).

Chongqing has been included in several national economic development zones, such as the 'Liangjiang New Area'⁵⁶ (2010), the 'China-Singapore (Chongqing) Demonstration Initiative'⁵⁷ (2015), and the 'Chongqing Pilot Free Trade Zone'⁵⁸ (2017). As the largest industrial and commercial city located in the southwest, Chongqing has also been valued as a centre of ICT development promotion to surrounding areas. For example, since 2015, the internet giant company Tencent has invested 3 billion Chinese Yuan in launching its new cloud-computing centre in Chongqing, as the only cloud-computing platform in West China. Benefiting from municipal ICT strategy and supportive policy from the central government, Chongqing has been driven to its goal of becoming an ICT-advanced region in West China.

⁵⁶ The original Chinese is “两江新区”.

⁵⁷ The original Chinese is “中新(重庆)战略性互联互通示范项目”.

⁵⁸ The original Chinese is “重庆自由贸易试验区”.

Rank of 2015	Provincial Region	2015	2014	2013	2012	2011
1	Beijing	23,014.59	21,330.83	19,800.81	17,879.4	16,251.93
2	Tianjin	16,538.19	15,726.93	14,442.01	12,893.88	11,307.28
3	Hebei	29,806.11	29,421.15	28,442.95	26,575.01	24,515.76
4	Shanxi	12,766.49	12,761.49	12,665.25	12,112.83	11,237.55
5	Neimenggu	17,831.51	17,770.19	16,916.5	15,880.58	14,359.88
6	Liaoning	28,669.02	28,626.58	27,213.22	24,846.43	22,226.7
7	Jilin	14,063.13	13,803.14	13,046.4	11,939.24	10,568.83
8	Heilongjiang	15,083.67	15,039.38	14,454.91	13,691.58	12,582
9	Shanghai	25,123.45	23,567.7	21,818.15	20,181.72	19,195.69
10	Jiangsu	70,116.38	65,088.32	59,753.37	54,058.22	49,110.27
11	Zhejiang	42,886.49	40,173.03	37,756.59	34,665.33	32,318.85
12	Anhui	22,005.63	20,848.75	19,229.34	17,212.05	15,300.65
13	Fujian	25,979.82	24,055.76	21,868.49	19,701.78	17,560.18
14	Jiangxi	16,723.78	15,714.63	14,410.19	12,948.88	11,702.82
15	Shandong	63,002.33	59,426.59	55,230.32	50,013.24	45,361.85
16	Henan	37,002.16	34,938.24	32,191.3	29,599.31	26,931.03
17	Hubei	29,550.19	27,379.22	24,791.83	22,250.45	19,632.26
18	Hunan	28,902.21	27,037.32	24,621.67	22,154.23	19,669.56
19	Guangdong	72,812.55	67,809.85	62,474.79	57,067.92	53,210.28
20	Guangxi	16,803.12	15,672.89	14,449.9	13,035.1	11,720.87
21	Hainan	3,702.76	3,500.72	3,177.56	2,855.54	2,522.66
22	Chongqing	15,717.27	14,262.6	12,783.26	11,409.6	10,011.37
23	Sichuan	30,053.1	28,536.66	26,392.07	23,872.8	21,026.68
24	Guizhou	10,502.56	9,266.39	8,086.86	6,852.2	5,701.84
25	Yunnan	13,619.17	12,814.59	11,832.31	10,309.47	8,893.12
26	Tibet	1,026.39	920.83	815.67	701.03	605.83
27	Shaanxi	18,021.86	17,689.94	16,205.45	14,453.68	12,512.3
28	Gansu	6,790.32	6,836.82	6,330.69	5,650.2	5,020.37
29	Qinghai	2,417.05	2,303.32	2,122.06	1,893.54	1,670.44
30	Ningxia	2,911.77	2,752.1	2,577.57	2,341.29	2,102.21
31	Xinjiang	9,324.8	9,273.46	8,443.84	7,505.31	6,610.05

Table 3-3. GDP ranking of provincial regions of China 2011-2015 (except Hong Kong and Macau)⁵⁹

In 2014, Chongqing local government signed a cooperation agreement with Inspur, a Chinese IT company specialising in server and software business, to establish a cloud-computing centre for the Chongqing government. Inspur helped the government to create a unified government cloud platform covering all the administrative units including counties.

⁵⁹ Source: Author. The data derived from NBS (2017).

Besides G2G and G2E applications built for internal communication, Inspur was responsible for setting up an integrated online portal of administrative approval for 429 types of items in 38 sub-administrative districts, based on the government cloud-computing centre (Pu 2017). With the help of several leading internet corporations including Inspur, Chongqing municipal government energetically made efforts to elevate the level of ICT infrastructure and emerging technologies in the municipality. These acts served as a good foundation for local e-government development in Chongqing, aiming to catch up to the first-tier municipalities in east China such as Beijing and Shanghai.

3.2 Local e-government development of Chongqing

3.2.1 E-government policy

Since seceding from Sichuan province in 1997 and becoming the youngest direct-controlled municipality, Chongqing has worked to be the centre of West China. In 1998, the idea of the 'Chongqing Information Port' ⁶⁰was put forward by the municipal government to promote Chongqing as the information centre of the upper and middle reaches of the Yangtze River (Peng and Liang 2012). Then, in 2003, the municipal government enacted administrative regulation to guide the informatisation of Chongqing (CQGov 2003a). Following this trend, a general plan regarding e-government development was published in the same year (CQGov 2003b).

In recent years, Chongqing municipal government has enacted different administrative regulations and plans on e-government in view of local circumstances. In the early stage of e-government implementation, the government website was the first key point in e-service delivery. In 2005, Chongqing municipal government issued a regional administrative document on building a government website to provide information, which served as guidance for establishing a government portal ranging from content to a supervision system (CQGov 2005). In 2008, the E-Government Technology Centre was renamed the E-Government Office of Chongqing municipal government. The function of the new office was specified as follows: '(1) To be responsible for organising, planning, coordinating and guiding e-government and public ICT infrastructure development, as well as operating emergency

⁶⁰ The original Chinese is “重庆信息港”.

platform of municipal government; (2) Implementing e-government system and public information network for municipal government; (3) Directing e-government implementation of every district and county government' (CQGov 2008).

In 2009, the Economic and Informatization Council of Chongqing was founded to formulate and guide municipal industry and informatisation development. Thus, the readiness of local leadership facilitated e-government implementation in Chongqing. As an evaluation mechanism, the municipal government published an announcement on the assessment of the government portal in 2009; this was updated to the latest version in 2017 with more detailed rules on managing governmental websites at different levels (CQGov 2017). On the basis of municipal requirements, district and county governments developed their own e-government evaluation system. For instance, Jiangjin district created its criteria to evaluate governmental websites: as a monthly evaluation, several main indicators were adopted including portal availability, reply speed, open data, etc. If a department's score was lower than the standard for two months, it would be given a warning by the district government (CQGov 2010a). After the release of the national economic and ICT strategy 'Internet Plus', Chongqing municipal government followed guidance to publish the 'Internet + Government Service' plan in late 2017. A specific task table for 2017 was presented in the plan regarding e-government improvement; this contained 11 items (Govcn 2017).

Considering that Chongqing is the poorest direct-controlled municipality and has a large rural area, the government has not neglected interregional balances. In 2010, Chongqing municipal government issued an administrative document to promote the implementation of 'waiwang'⁶¹(G2C and G2B) in e-government, including preparation of infrastructure, cyber security, and internal BPR (CQGov 2010b). Then, in 2011, the municipal government issued an announcement on fostering district and county governments to conduct open information and e-service delivery. According to the announcement, several counties and districts were appointed as experimental places to establish a united e-government platform within one year (CQGov 2011). As this project focused on the e-government practice of rural area, the municipal government provided financial and technological support for the less developed regions. More local e-government initiatives of Chongqing are summarized in table 3-4.

⁶¹ "waiwang(外网)" is a definition used in Chinese e-government, context to express government's connection with the external world. It usually refers to G2C and G2B.

Year	Name of Initiative	Section
1998	重庆信息港 Chongqing Information Port	Strategy
2003	重庆市信息化工程建设管理暂行办法 Provisional Measures on Informatization Construction of Chongqing	Regulation
2003	关于推进我市电子政务建设的工作意见 Opinions on accelerating e-government of Chongqing	Administrative document
2005	关于加强全市政府公众信息网站建设的通知 Announcement of enhancing Chongqing government websites regarding information-providing	Administrative document
2009	关于调整政府网站考评标准的通知 Announcement of adjusting evaluation criteria of Chongqing government websites	Administrative document
2010	关于加快电子政务外网建设的意见 Opinions on accelerating e-government extranet of Chongqing	Administrative document
2011	关于认真做好依托电子政务平台开展区县政务公开和政务服务试点工作的通知 Announcement of conducting open information and e-service delivery of district and county governments by e-government platform	Administrative document
2015	关于印发重庆市深入推进智慧城市建设总体方案（2015—2020年）的通知 Announcement of issued general blueprint on accelerating smart city building of Chongqing (2015-2020)	Administrative document
2016	重庆市电子政务云平台管理暂行办法发布 Provisional Measures on government cloud platform of Chongqing	Regulation
2017	重庆市加快推进“互联网+政务服务”工作方案 Working plan of accelerating “Internet + Government services” of Chongqing	Administrative document
2017	关于印发重庆市政务信息系统整合共享工作方案的通知 Announcement of issued working plan on integrating and sharing government information system of Chongqing	Administrative document
2017	关于印发重庆市政府网站管理办法的通知 Announcement of issued management methods on Chongqing government website	Administrative document

Table 3-4. Main initiatives of local e-government development of Chongqing⁶²

⁶² Source: Author

In addition, Chongqing Chief Information Officer (CIO) association held annual conferences for district and county government CIOs to communicate and share experiences with each other; the aim was to integrate resources and facilitate cooperation among sub-regions of Chongqing (Yu 2011). Such communication is necessary for local government CIOs as they may be under supervision from multiple municipal departments, and exchange of ideas and experiences could help them in better decision-making and in avoiding duplicate investments.

As society was ushered into the digital era by emerging ICT such as Big Data and Internet of Thing (IOT), e-government needed changes as well, both in technological and managerial fields. In 2014, a seminar regarding top-layer design and government cloud was held to welcome experts from across the country to propose solutions for the government cloud in Chongqing (Cao 2014). Policy support was provided in 2016 by the administrative regulation named 'Provisional Measures on Government Cloud platform of Chongqing'.⁶³ It was published by the aforementioned Economic and Informatization Council and Chongqing Finance Bureau, to define the objects, scope, and substance of the government cloud system (CQGov 2016). This regulation serves as general guidance for government departments at all levels to utilise and operate the cloud system in e-government. Furthermore, Chongqing municipal government does not hide its ambition to pursue the latest technologies. In 2015, it issued a general plan on the construction of a smart city (CQGov 2015). This plan clearly elaborates the objectives, vision, and details of six projects to foster Chongqing to be a smart city within five years (2015-2020). The six main projects are:

(1) Information infrastructure enhancement including fiber, 4G net, a municipal basis database, and a government cloud platform;

(2) Social management in a smart city including an e-government sharing system, G2G decision support, an e-port, credit-system building, open data, and so on;

(3) Public service delivery in a smart city including e-health, e-education, e-social welfare system, e-aging, e-employment, e-transportation, e-culture, e-tourism, e-community, etc.;

(4) Emerging industry in a smart city including smart logistics, industrial internet, e-agriculture, the Big Data industry, the IOT industry, and the Beidou GPS industry;

⁶³ The original Chinese is“重庆市电子政务云平台管理暂行办法”.

(5) Cyber security in a smart city;

(6) Supporting measures including internal workflow reform, financing readiness, personnel training, policy support, and an evaluation system (CQGov 2015).

As mentioned above, Chongqing government has endeavoured to adopt emerging ICT in the government sector by collaborating with private internet corporations that have progressive technology and experience. Furthermore, political and policy support has been provided for a further advancement of e-government in Chongqing.

3.2.2 E-government performance comparison among direct-controlled municipalities

Recently, a number of studies have compared e-government performance nationwide. As the youngest of the direct-controlled municipalities, Chongqing has indeed fallen behind Beijing, Shanghai, and Tianjin in economic and social development, especially in the early stages. The journal of e-government⁶⁴ was founded in 2004 and has become the most influential academic journal regarding e-government development in China. The journal published the 'Government Portal Ranking of Cities in China 2003~2004' in the same year, as the first nationwide comparison among Chinese cities. The report fully investigated 336 cities on their government portal website using the E-Government Realisation (EGR) index. The EGR score is based on two indicators: Online Service Ability (OSA) and Online Application Ability (OAA). Table 3-5 presents the top 40 cities out of 336 in the ranking (中国城市政府门户网站评价课题组 2004). Chongqing was ranked 39th, in contrast to other direct-controlled municipalities: Beijing (1st), Shanghai (2nd) and Tianjin (23rd). Considering that there are 35 provincial-level cities (including 4 municipalities, 2 Special Administration Region (SAR)s, 5 autonomous regions and 23 provincial capitals), of which direct-controlled municipalities are comparatively developed areas, this was not a satisfactory position for Chongqing, not to mention the gap compared to the other three direct-controlled cities.

Rank	City	Government Website	OSA	OAA	EGR
1	Beijing	http://www.beijing.gov.cn	74	70	73.2
2	Shanghai	http://www.shanghai.gov.cn	72	70	71.6
3	Dalian	http://www.dalian.gov.cn	70	74	70.8
4	Nanjing	http://www.nanjing.gov.cn	70	67	69.4

⁶⁴ The original Chinese name of the journal is “电子政务”.

5	Hangzhou	http://www.hangzhou.gov.cn	68	71	68.6
6	Guangzhou	http://www.gz.gov.cn	68	71	68.6
7	Changchun	http://www.changchun.gov.cn	67	62	66
8	Ha'erbin	http://www.harbin.gov.cn	63	62	62.8
9	Zhuhai	http://www.zhuhai.gov.cn	63	62	62.8
10	Wuhan	http://www.wuhan.gov.cn	64	55	62.2
11	Chengdu	http://www.chengdu.gov.cn	62	62	62
12	Shantou	http://www.shantou.gov.cn	63	54	61.2
13	Quanzhou	http://www.fjqz.gov.cn	63	50	60.4
14	Zibo	http://www.zibo.gov.cn	61	55	59.8
15	Shenzhen	http://www.sz.gov.cn	61	55	59.8
16	Nanyang	http://www.nanyang.gov.cn	61	54	59.6
17	Jinan	http://www.jinan.gov.cn	59	57	58.6
18	Anshan	http://www.anshan.gov.cn	59	54	58
19	Panjin	http://www.panjin.gov.cn	58	54	57.2
20	Daqing	http://www.daqing.gov.cn	59	47	56.6
21	Ji'an	http://www.jian.gov.cn	59	45	56.2
22	Shenyang	http://www.shenyang.gov.cn	59	44	56
23	Tianjin	http://www.tj.gov.cn	57	51	55.8
24	Suzhou	http://www.suzhou.gov.cn	56	54	55.6
25	Quzhou	http://www.quzhou.gov.cn	57	50	55.6
26	Huizhou	http://www.huizhou.gov.cn	56	53	55.4
27	Foshan	http://www.foshan.gov.cn	56	53	55.4
28	Jinhua	http://www.jinhua.gov.cn	56	52	55.2
29	Yantai	http://www.yantai.gov.cn	54	60	55.2
30	Qingdao	http://www.qingdao.gov.cn	55	56	55.2
31	Fuxin	http://www.fuxin.gov.cn	56	52	55.2
32	Dongguan	http://www.dongguan.gov.cn	55	56	55.2
33	Xiamen	http://www.xm.gov.cn	56	52	55.2
34	Changzhi	http://www.changzhi.gov.cn	55	55	55
35	Yuxi	http://www.yuxi.gov.cn	56	50	54.8
36	Jieyang	http://www.jieyang.gov.cn	56	50	54.8
37	Luzhou	http://www.luzhou.gov.cn	55	54	54.8
38	Yangzhou	http://www.yangzhou.gov.cn	54	55	54.2
39	Chongqing	http://www.cq.gov.cn	56	45	53.8
40	Yueyang	http://www.yueyang.gov.cn	56	45	53.8

Table 3-5. Top 40 cities of the 'Government Portal Ranking of Cities in China 2003~2004'⁶⁵

After the release of the 'Internet Plus' strategy in 2015, Chinese society was motivated by the development of emerging technologies. In the government service area, e-government attracted more attention from different social sectors. The E-Government Research Center of

⁶⁵ Source: Author. The data derived from 中国城市政府门户网站评价课题组 (2004).

the Chinese Academy of Governance (CAG) organised large-scale studies on the interregional comparison of e-government development, which rapidly became the most influential studies regarding Chinese e-government. Two main investigations are representative of this kind of comparative study: the Chinese Cities E-Government Development Report⁶⁶ and the Provincial Government Online Service Performance Report⁶⁷. The former has been published annually since 2014, while the latter started in 2015 and is updated every two years.

The Chinese Cities E-Government Development Report focuses on the e-government development of cities above prefecture-level in China. The research references the index from the UN’s e-government survey, the E-Government Development Index (EGDI), as the main indicator, and uses the Online Service Index (OSI) and the E-Participation Index (EPI) as sub-indicators. However, due to its short history of only three years, this report updates its evaluation criteria each year to adopt the reality of burgeoning e-government development in China. The changes of sub-indicators for EGPI can be observed in Figure 3-4.

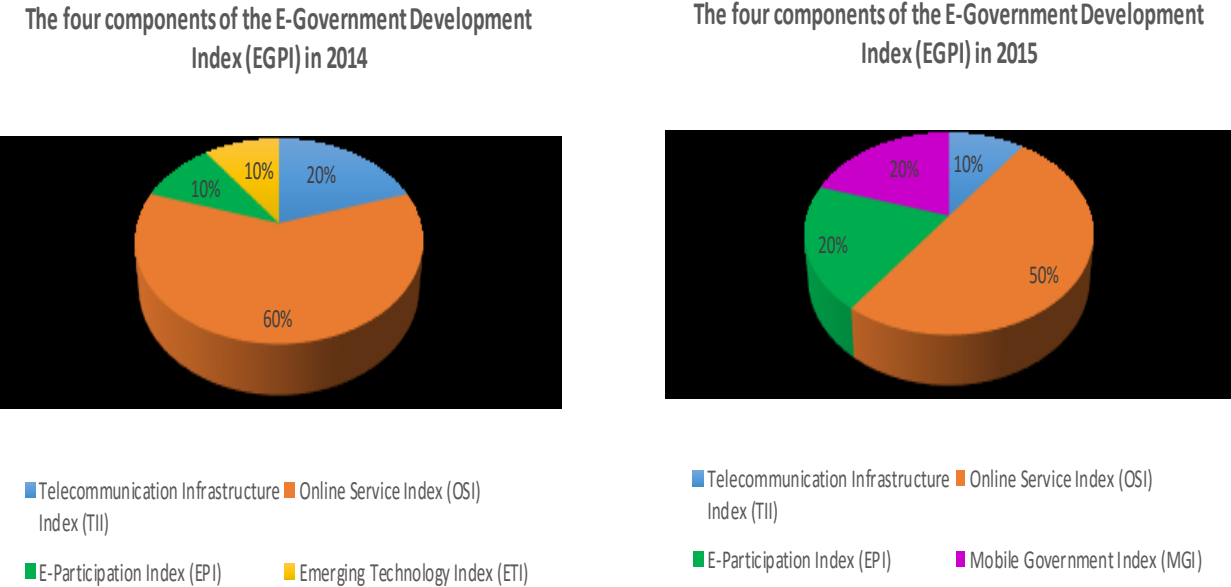


Figure 3-4. The changes of EGPI in the Chinese cities e-government development report⁶⁸

The first version of the indexes added one new indicator, the Emerging Technology Index

⁶⁶ The original Chinese name of the report is “中国城市电子政务发展水平调查报告”,
⁶⁷ The original Chinese name of the report is “省级政府网上政务服务能力调查评估报告”.
⁶⁸ Source: Author. The data derived from “The Chinese cities e-government development report 2014-2016”, Wang (2014); Li and Du (2015); Wang (2016)

(ETI), to evaluate the city's effort to employ new technology in e-service delivery. In 2015, this indicator was replaced by the Mobile Government Index (MGI), which accounted for 20% of the EGPI. In the latest report in 2016, the components of EGPI were reduced to three: the OSI, EPI, and MGI. These changes in the evaluation system could help to understand the changes in the Chinese government's emphasis on e-government development. In the newest ranking, the indicator representing infrastructure preparedness was deleted. On the other hand, sub-indicators for online service and mobile government service have been maintained; in particular, the performance of online service was raised to 60% of the EGPI. Two findings can be inferred from these changes: first, infrastructure is no longer the determinant of e-government performance in China; and second, the Chinese government is focusing more on providing e-services in the citizen-centric view. These two findings are associated with the fast-growing market of smartphone and mobile applications. Nowadays, there are fewer barriers to enjoying e-government services, such as easier access via smartphone than via a computer, and a simple interface for users with lower IT literacy. The determinants of e-government performance have shifted from well-prepared infrastructure to the ubiquity of e-service delivery. In fact, there are individual sections in the Chinese Cities E-Government Development Report regarding the practices of WeChat Government and Weibo Government. In particular, the latest survey in 2016 concluded that the development of WeChat Government had exceeded official government apps in almost all Chinese cities (Wang 2016). This clearly shows the reality of the booming m-government with the utilisation of SNS platforms in China.

Only 36 main cities out of 338 at the prefecture-level are included in the Chinese Cities E-Government Development Survey ranking; the rest are investigated without being ranked. These 36 main cities comprise 4 direct-controlled municipalities, 15 sub-provincial cities, and 17 non-sub-provincial cities which are the capitals of their provinces. The EGPI performance of all 338 cities is divided into four categories:

(1) Highly developed city: a score of more than 75 indicates the top level of e-government development in China;

(2) Developed city: a score between 50 and 75 indicates a developed area in terms of e-government performance;

(3) Developing city: this type of city scores between 25 and 50, and is regarded as having a developing level of e-government;

(4) Less developed city. a score of less than 25 indicates a less-developed city in e-government implementation.

Only five cities, or 1% of the evaluated regions, were at the highly developed level in 2016, while 37% were developed. Most of the cities (56%) were at the intermediate level as developing areas, and 19 cities showed the worst e-government performance with scores lower than 25. Figure 3-6 shows the performance of e-government development in Chongqing, comparing it to the three-other direct-controlled municipalities. Considering that direct-controlled municipalities have the first-tier capacity of resources and policy support, it is considered to be appropriate to list them in one group for comparative observation.

There is a certain gap between the four direct-controlled municipalities: the figure shows that Beijing and Shanghai have obviously higher performances than Chongqing and Tianjin on e-government development. They also belong to the first-class category, with a EGPI score over 75 in the past three years. Though lagging behind these two municipalities, Chongqing and Tianjin still have reasonable performance at the developed level, with scores over 50. However, the gap between the four municipalities shrank in the latest evaluation in 2016. Both Shanghai and Beijing’s scores decreased, with Beijing surpassing Shanghai by a larger margin.

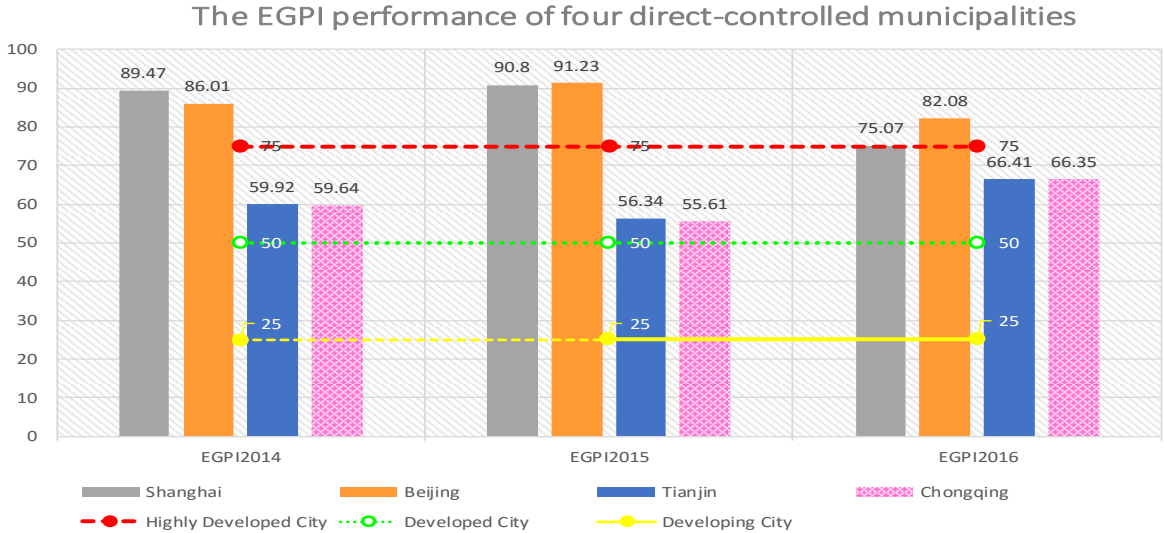


Figure 3-5. The EGPI performance of four direct-controlled municipalities in the Chinese cities e-government development report from 2014 to 2016⁶⁹

⁶⁹ Source: Author. The data derived from “The Chinese cities e-government development report 2014-2016”, Wang (2014); Li and Du (2015); Wang (2016)

On the other hand, Chongqing and Tianjin saw a recent increase in e-government performance. As the report did not release detailed data on all the sub-indicators, the following section does not compare the municipalities' e-participation indexes. Nevertheless, figure 3-6 below compares their performance on the Online Service Index (OSI) and Mobile Government Index (MGI) in the 2016 survey.

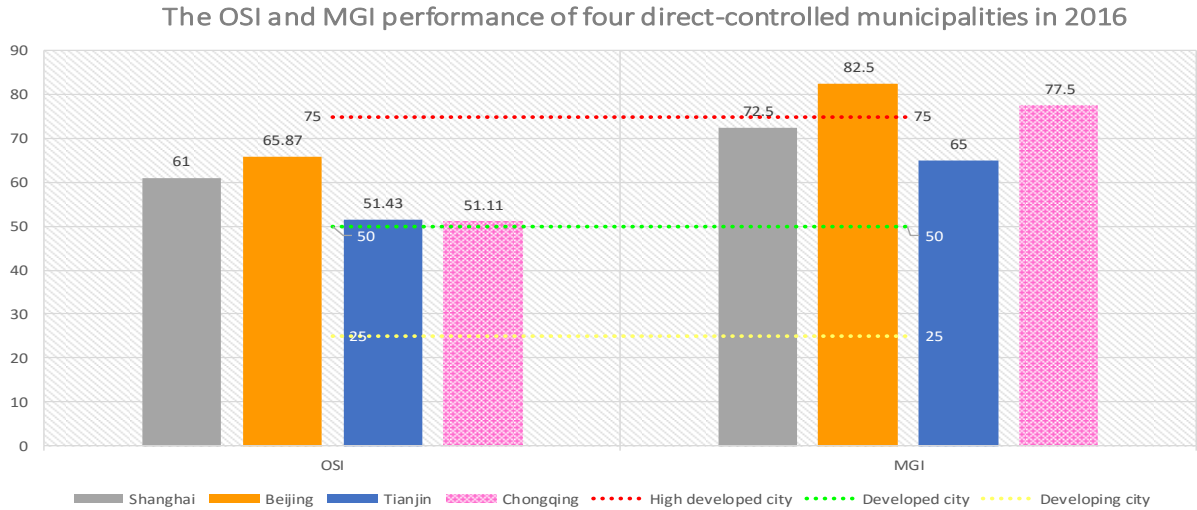


Figure 3-6. The OSI and MGI performance of four direct-controlled municipalities in the Chinese cities e-government development report from 2014 to 2016⁷⁰

The OSI mainly refers to government portal websites regarding 10 basic public services, including marriage, household registration, education, social security, health, housing, transportation, employment, immigration, and convenient services, inspecting two aspects of these services: the capacity and user experience. On the other hand, the MGI focuses on WeChat Government and official government mobile apps (Wang 2016). All four municipalities perform better on m-government service than on website-based e-service. Beijing surpasses the other municipalities on both indicators, and is evaluated as highly developed regarding the implementation of m-government. In contrast, Chongqing has the lowest scores on online service, barely qualifying as a highly developed city. However, Chongqing made progress in terms of facilitating the development of m-government, with a score over 75, which is the second highest score in the direct-controlled municipality group. This proves that Chongqing municipal government's efforts to collaborate with advanced

⁷⁰ Source: Author. The data adapted from "The Chinese cities e-government development report 2014-2016", Wang (2014); Li and Du (2015); Wang (2016)

internet companies to facilitate m-government services have paid off. The preparedness of m-government services in Chongqing represents an opportunity for the present study to explore how local e-government services are implemented on SNS platforms.

Another nationwide study regarding e-government development in China is the CAG’s Provincial Government Online Service Performance Report. This report examines e-service delivery of the provincial governments. Since direct-controlled municipalities are regarded as the highest-ranked administration, the same as provinces, they are included as research objects in the survey. As provincial governments are mainly responsible for G2B and a small part of G2C, only their portal websites were investigated. The survey references the UN’s e-government research to design evaluation indicators as well. The main evaluation index is called the Provincial Online Service Index (POSI), and it includes four sub-indicators. In the first version in 2015, these were completeness of service channel, coverage of service type, accuracy of service guidance, and interactivity of online service. In the second ranking of 2017, interactivity of online service was improved to maturity of online service. The indicators are shown in table 3-6. The latest report explains the four indicators as follows:

(1) Completeness of service channel focuses on the accessibility of the online service: whether the business sector and individuals can locate the service conveniently, promptly, and precisely;

(2) Coverage of service type focuses on the visibility of the online service and refers to the normalisation of service delivery;

(3) Accuracy of service guidance concerns the availability of the online service, which is the correctness of released information regarding service procedures;

(4) Maturity of online service emphasises the depth of the service delivery, referring to the level of the one-stop service (CAG 2017).

2015		2017	
completeness of service channel	Service delivery mode	completeness of service channel	Planning of service platform
	Thematic services		Function of service
	Multi-channel access		Multi-channel access
coverage of service type	Power list	coverage of service type	Open data
	Quantity and scope of open		Introduction to service

	data		Level of normalization
accuracy of service guidance	Basic information of open data	accuracy of service guidance	Basic information
	Application information		Application information
	Procedure information		Procedure information
	Form download		Form download
	Charge information		Charge information
interactivity of online service	Level of online service	maturity of online service	Depth of online service
	Online feedback		One-stop procedure

Table 3-6. Indicators of the Provincial Government Online Service Performance Report⁷¹

This survey was fuelled by the Internet Plus strategy in 2015, to explore public service delivery of provincial e-governments from the view of user experience (CAG 2015). Except Hong Kong SAR and Macau SAR, 23 provinces, 5 autonomous regions, and 4 direct-controlled municipalities are included in the survey. One representative government portal is selected from each region to be the observable. To better understand Chongqing’s development of e-service delivery, figures 3-7 and 3-8 illustrate how it performed compared to the three-other direct-controlled municipalities in the report.

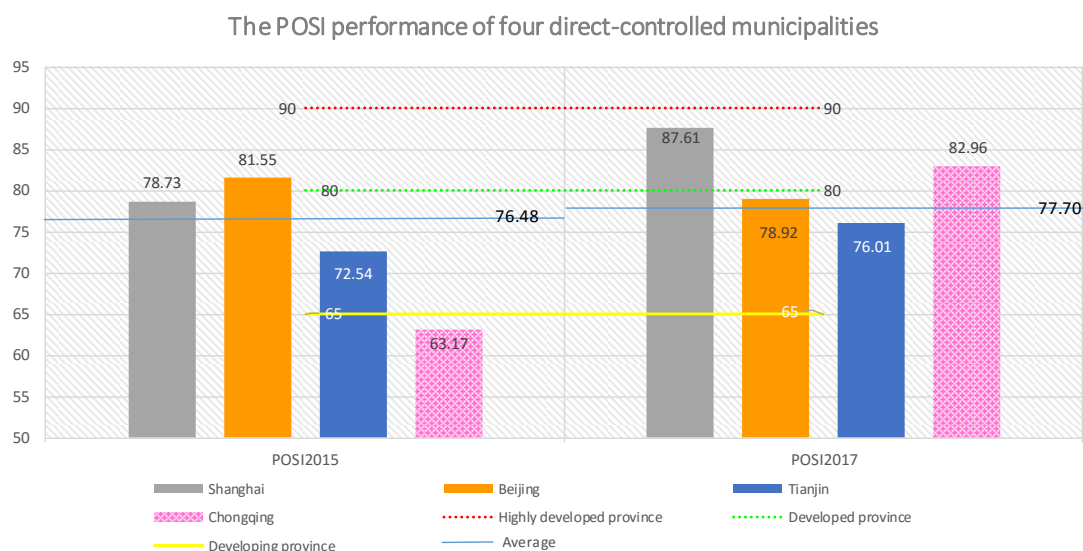


Figure 3-7. The POSI performance of four direct-controlled municipalities in the Provincial Government Online Service Performance Report for 2015 and 2017⁷²

⁷¹ Source: Reproduced based on CAG (2015), CAG (2017)

⁷² Source: author, The data derived from Provincial Government Online Service Performance Report 2015 and 2017 data, CAG (2015), CAG (2017)

The survey adopts similar criteria as the Chinese Cities E-Government Development Report, in that all regions are divided into four categories: less developed province (under 65), developing province (65~80), developed province (80~90), and highly developed province (over 90). In 2015, Beijing surpassed the three other municipalities and was the only region assessed at the developed level, with a score of 81.55. Shanghai and Tianjin were evaluated at the developed level (65~80), with Shanghai slightly behind Beijing with a score of 78.73. Only Beijing and Shanghai had above-average scores, while Tianjin and Chongqing were below the average. In the first report in 2015, Chongqing’s performance was found to be at the very bottom of the municipal group, even scoring as low as the group of less-developed provinces. In fact, Chongqing was ranked second-lowest among 35 provincial regions in 2015.

However, the implementation of government portals rapidly improved in some regions, while others fell behind. In the 2017 ranking, Shanghai surpassed Beijing with a widening gap, jumping from 15th to 4th place out of the 32 provinces. Beijing performed worse than in 2015, regressing from developed to developing province, while Tianjin made small progress with a growing score. The greatest surprise came from Chongqing, which made tremendous progress in improving its government portal. It successfully advanced its position from 31st to 10th, making it the second-best in the direct-controlled municipality group, just behind Beijing. It

The CSCI/CSTI/ASGI/IOSI performance of four direct-controlled municipalities in 2015

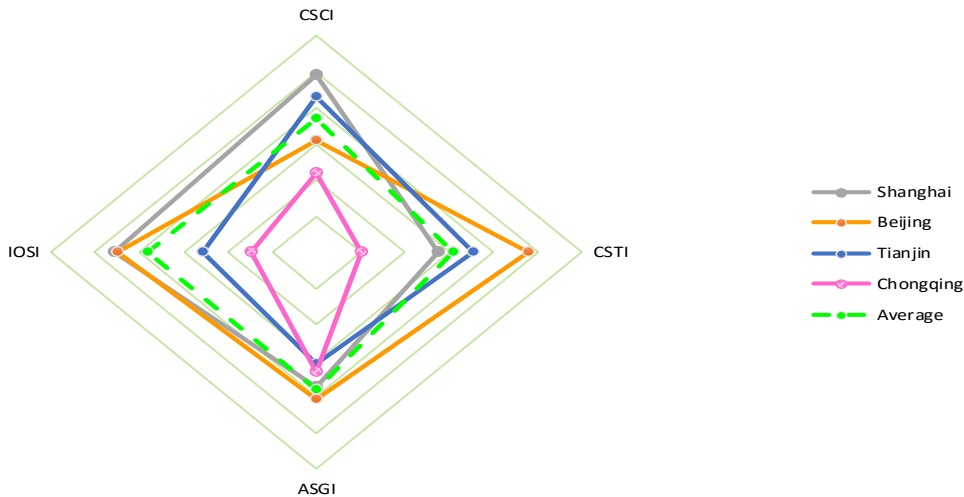


Figure 3-8. The CSCI, ASGI, IOSI, and CSTI performance of four direct-controlled municipalities in the 2015 Provincial Government Online Service Performance Report⁷³

⁷³ Source: Author, adapted from Provincial Government Online Service Performance Report 2015 data CAG (2015)

also achieved tremendous development, evolving from a less-developed province to a developed province. The great change in the ranking reveals that Chongqing has valued the implementation of its government portal in recent years, with a considerable improvement. As both the 2015 and 2017 reports released detailed data on each sub-indicator, they are used here for further observation of the four direct-controlled municipalities. Figure 3-11 presents the performance of the four municipalities in 2015 on the Completeness of Service Channel Index (CSCI), the Coverage of Service Type Index (CSTI), the Accuracy of Service Guidance Index (ASGI), and the Interactivity of Online Service Index (IOSI).

As figure 3-8 shows, Beijing surpassed the other three regions except for the completeness of service channel, for which Shanghai had the best score. In contrast, Chongqing was the only municipality for which all the sub-indicators were lower than the average, especially for the coverage of service type. This reveals that in 2015, Chongqing failed to deliver a comprehensive and convenient e-service on its government portal in users' view.

In 2017, the indicator of interactivity of online service was updated to maturity of online service to achieve a more elaborate investigation of hidden features of the online service delivery from the user perspective. Furthermore, the indicator of one-stop procedure was added to estimate how streamlined the one-stop service provided by the provincial government portal was.

Furthermore, the indicator of coverage of service type evolved its criteria with a new sub-index, level of normalisation, to inspect whether the provincial government portal complied with standards created by the central government.

As a result of two years of change, the ranking presented an entirely different image in 2017 than in 2015. Figure 3-9 summarises the scores of the four direct-controlled municipalities in the latest survey. First of all, Shanghai replaced Beijing to be the best direct-controlled municipality in terms of government portal website performance, and was especially far ahead regarding the new indicator of maturity of the online service. Both Beijing and Tianjin regressed mildly from their last performance, and Tianjin dropped to the average level of all the provinces.

The CSCI/CSTI/ASGI/MOSI performance of four direct-controlled municipalities in 2017

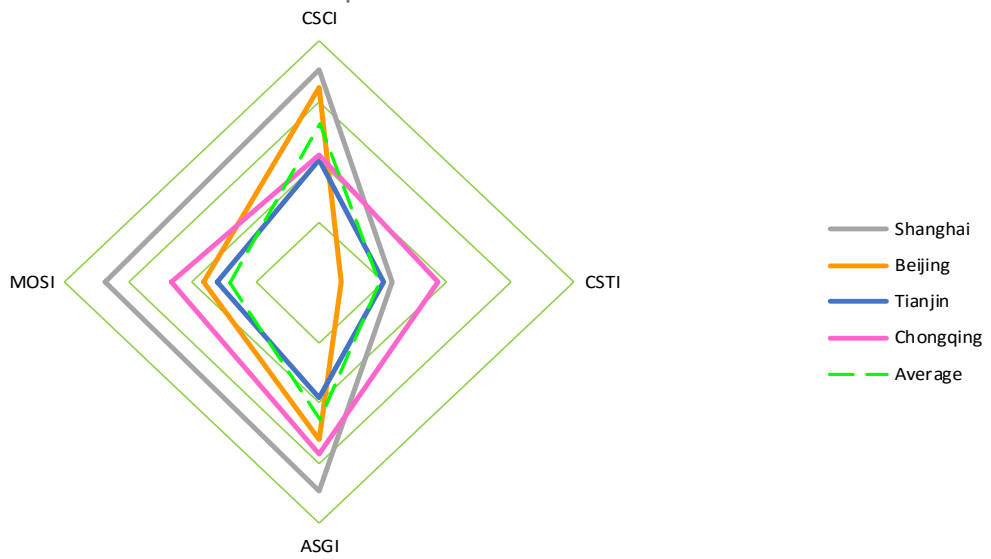


Figure 3-9. The CSCI, ASGI, MOSI, and CSTI performance of four direct-controlled municipalities in the 2017 Provincial Government Online Service Performance Report⁷⁴

Among the four direct-controlled municipalities, the performance of Chongqing was most surprising, jumping from 31st to 10th in the full ranking. Besides exceeding Tianjin on all four indexes, Chongqing had the greatest score on coverage of service type. It also achieved the second-best scores on accuracy of service guidance and maturity of online service. The performance changes in the survey proved the ambition of Chongqing to improve user experience and online services, and demonstrated some success in this regard.

⁷⁴ Source: Author, adapted from Provincial Government Online Service Performance Report 2017 data, CAG (2017)

Chapter 4 Exploring E-Government Promotional Activities in Reality

1. Introduction

As shown in the literature review, some theoretical arguments support marketing promotion applied in the public sector. Nevertheless, we can still remain sceptical of the practice in the real world: the question is, do governments indeed employ marketing strategies in the process of dealing with citizens, who are treated as customers? In the new or ongoing trend of the public services era, e-government has incorporated or been endowed with intersectional components, from a valuable tool for administrative reform to a promoter for the citizen-centric spirit. It is reasonable to assume that governments’ movements are positive in the promotion of e-government services to citizens, as the literature revealed that the citizen-centred trend is governments’ mutual goal to pursue.

This chapter presents the structured pilot survey and in-depth interviews conducted in this study. These were the first steps to examine the status of promotional activities in governments’ actions. The results from this stage served as the basis of a large-sample quantitative analysis, so as to undercover the impacts from these activities.

This chapter comprises two main sections; these are reviewed in table 4-1 and table 4-2, as follows.

Pilot survey	
Goal	To have a preliminary understanding of e-government promotion, used as a reference for in-depth interviews.
Target group	Experts from the 11 th IAC annual conference in June 2016
Sample size	11 experts
Questions	<ol style="list-style-type: none"> 1. (Rank question): What are the priorities of your government in promoting e-government services? 2. (Multiple-choice): In what ways do you (or your government) choose to promote e-government services to citizens?

Table 4-1. Structure of pilot survey⁷⁵

⁷⁵ Source: Author

In-depth interviews			
	Organisations	Interviewees	Implementation
Part 1: Unified, in-depth questions regarding e-government promotion in the context of diverse Chinese political districts	Department of Information Management, National Development Council (NDC), Taiwan	Three experts including deputy director	Three-hour face-to-face interviews
	Department of Electronic Government Affairs, the Directorate of Administration and Public Administration Services (DAGE), Macau	Three experts including section chief	Two-hour face-to-face interviews
	Office of the Government Chief Information Officer (OGCIO), Hong Kong	One expert	Answers to questionnaire
Part 2: Explore e-government promotional activities in mainland China	China Center for Information Industry Development (CCID), China	Two experts including deputy director	One-hour face-to-face interview and phone interview
	Department of Publicity in Chongqing Public Security Bureau	Two experts including section chief	Two-hour face-to-face interview

Table 4-2. The structure of the in-depth interviews⁷⁶

2. Pilot survey: priorities of e-government promotional activities

In the Waseda-International Academy of CIO (IAC) international digital government ranking introduced in the previous chapter, the 10 main indicators used to evaluate a nation (region)'s integrated level of e-government development could be considered to be divided into two parts. The first part represents users' experience in their usage of e-government services, including government employees (G2E), government departments (G2G), business sectors (G2B), and citizens (G2C). For instance, several systems are examined on the scale of three different indicators. These systems are the national portal, e-procurement, e-tax, e-custom, e-health, one-stop service, and the budgetary system. These items figure prominently

⁷⁶ Source: Author

in the evaluation process because their values are the key to a multi-channel system. This is the same as the importance of customer experience in marketing strategy, and in this respect, e-government services can be seen as public services provided to customers.

This chapter, designed to figure out following questions: How does promotion work in the reality of government's movement? Does it follow the conducted public marketing strategy? Does it have routines, and well-established mechanisms in practice? The chapter elaborates the findings of the qualitative research, aims to explore e-government promotional activities in the actual practice of different governments by examining their operations that may cover the scale of promotion. What started first was a preliminary survey regarding the fundamental questions on e-government promotion: why do governments need promotional activities, and how do they execute the procedure? Answers to both questions help to create an image of what happens in governmental departments when they promote e-government services. The pilot survey served as a foundation for the in-depth interviews with government officers and helped to avoid inefficient enquiries. It also made it easier to formulate the semi-structured interviews in the following stage.

2.1 Target group: experts from the 11th IAC annual conference in June 2016

In the last two decades, e-government has grown dramatically as a term, an identified activity, and a research topic (Heeks and Bailur 2007). There are now related programs in universities, training courses for both academics and practitioners, and annual academic conferences that focus on the latest trends and progress in the e-government area. For instance, the European Conference on eGovernment (ECEG) has run for 18 years, with a new theme regarding e-government development every year. Another organisation, called International Conference on Theory and Practice of Electronic Governance (ICEGOV), organises a series of international conferences on theory and practice of e-governance, which take place annually around the world. These are coordinated by the United Nations University Operating Unit on Policy-Driven Electronic Governance (UNU-EGOV) (ICEGOV 2017). Many researchers, officers, and practitioners in the field of e-government are regularly gathering at conferences to exchange knowledge and experience, therefore leading the conferences to be a great place to gain clear and useful information on the ongoing field of e-government, especially from multiple perspectives: not only from scholars, but also from relevant practitioners from

governments and private sectors. Hence, the pilot survey was conducted at one of these conference, the 11th IAC annual conference in June 2016.

The IAC was co-founded in 2006 in Japan by Japan itself, the US, Indonesia, the Philippines, Switzerland, and Thailand. Its members and alliances are now from many economies such as China, Cambodia, the Netherlands, India, Korea, Laos, Hong Kong, Macao, Peru, Singapore, South Africa, Taiwan, the UK, Vietnam, Italy, and Russia, among others (IAC 2017a). CIO is short for Chief Information Officer, which was first defined in 1981 by Synnott and Gruber as 'a senior executive responsible for establishing corporate information policy, standards, and management control over all corporate information resources' (Synnott and Gruber 1981). This position has attached more and more importance to companies as the technologies shaping the architecture of organization. As soon as e-government was commonly incorporated into public administration, the system of CIO was introduced to governments from the private sector to be utilised in the management of the public sector. The potential of e-government to contribute to the government agenda through citizen engagement, effective service delivery, and improved efficiency in government is being realised to depend on strong e-leadership (Auffret et al. 2010). Therefore, the IAC serves as an organisation to hold activities including workshops, conventions, symposia, lectures, seminars, and meetings to foster the development of the CIO, which can lead to further bettering e-government. This organisation also has other missions, such as establishing academic standards by conducting research and surveys, and facilitating exchange of knowledge, information, and ideas among academic professionals, businesses, and public sectors that are highly related to the field of e-government.

The pilot survey was conducted during the 11th annual conference, which was held in Milan in June 2016. The present author delivered a short questionnaire to the participants to ask about their experiences with the current activities in promoting e-government services. Two merits of this survey can be identified. The first is that it encouraged interdisciplinary and cross-sector opinions given the varied backgrounds of the participants, who were academics and practitioners. Though under the logic of promotion itself, government should be considered as the main organiser of promotional activities, as e-government services are meant to be the 'commodity' provided by government. However, considering the collaboration between the public and private sectors, e-services have embraced business, the non-profit

sector, and citizens, among whom cooperation is highly respected. Hearing from various positions was a way to avoid unilateral opinions, thereby contributing to the initial stage of this research. As a second strength of the survey, before the fieldwork in mainland China began, it was necessary to have a comprehensive understanding of the overall status of e-government promotion internationally. Of course, China may have its own road for the development of this area because of its specific political and social structure. This will be discussed in the following chapter. Nevertheless, the influence of public management and marketable standards on Chinese society cannot be ignored. Having a view comprising global ideas was useful to establish the research scale for the main analysis.

Therefore, a pilot survey was distributed to participants of the IAC annual conference and collected after all the sessions to avoid missing potential respondents. The next section presents the details and results of the survey.

2.2 Results

A total of 19 questionnaires were collected after the conference, 18 of which were valid (one was abandoned because of a missing reply). Though some respondents showed their gratitude for the concern about this topic by sharing extra opinions on the questionnaire besides their answers to the question items, these opinions were excluded in the formal calculation of the two main questions to avoid ambiguity and to ensure rigor.

The two main questions regarded the nature of promotional activities during the delivery of e-government services. The questions concerned why governments need promotional activities, and how they execute the procedure. The first was a rank question whose form was, 'What are the priorities of your government in promoting e-government services to citizens?' This was followed by the multiple-choice question, 'In what ways do you (or your government) choose to promote e-government services to citizens?' For calculation of the first question, the respondents' most preferred choice (which they ranked as 1) had the greatest weight, and their least preferred choice (which they ranked in the last position) had a weight of 1. Unmarked items were given a weight of 0. For the multiple-choice question, the weight of 1 was given to each selected choice. The total score was calculated based on this rule. The results of both questions were presented in table 4-3.

Four behavioural goals were adopted as the objectives of e-government promotion:

awareness, intention to use, actual adoption, and satisfaction. To increase the comprehensiveness of the research design, the questionnaire allowed participants to write down their own insights as an extra option called 'others'. Five respondents recognised the 'existence' of e-government services as a fifth behavioural goal. There was also an endorsement for 'perceived quality'. Perceived quality is a specific term frequently used in marketing literature, and many researchers have attempted to test it by examining subjects' reactions to several product attributes (price, brand, colour, etc.) (Lockshin and Rhodus 1991).

The existence of e-government services stayed in the penultimate position. It was thought that this answer was an influential result. To some extent, the outcome of increasing the existence of e-service itself may be similar to 'awareness'. Meanwhile, awareness was identified significantly in second place with a frequency of 70, followed by the 'actual usage' (60) and 'intention to use' (47). Finally, citizens' satisfaction with e-government services was seen as the first goal of governments' promotion activities with a frequency of 76.

Though the four objectives representing citizens' behaviours towards e-government services had their discrepancy due to the variance, they were noticeably identified to be potential targets for e-government promotion. This served as a foundation for the next step, as the reasonableness of the research design was enhanced by the result.

The second issue to confirm before the main analysis was whether promotion in marketing strategy is suitable, or indeed employed in the actual practice of governments. Direct marketing was the promotional strategy most often selected by the experts, followed by advertising and usage promotion, which had the same supporting rate. Mandatory use was given as an option because of the concern that some governments could use their legal and administrative authorities to force citizens to use the public services in digital channels. Surprisingly, however, only 6 respondents out of 18 indicated that mandatory use existed in the practice of promoting e-government services in their region. This revealed that e-government preserves its political features compared with pure commodity/services in the market. However, so far, most countries around the world are reluctant to push citizens into the compulsory use of e-government services. This could escalate to an intricate issue regarding the freedom and legitimate rights of citizens, since e-service is not only a form of service delivery but is also related to individuals' digital literacy. People may feel uncomfortable or simply prefer to use traditional channels to communicate with public

authority. The nature of promotion as a flexible tool to approach citizens concerns that customers (citizens)' perception should be valued as the first priority ahead of other concerns, like the base of the citizen-centric culture. In this case, mandatory use is considered to be inappropriate as a promotional method due to its violation of the value of marketing.

Using the results of the pilot survey, the qualitative analysis moved to the second phase: in-depth interviews. The pre-defined interview questions contained items that were proven to be relevant to the theme of this research.

Results of Pilot Survey	
1. What are the priorities of your government in promoting e-government services to citizens?	
Priorities of e-government promotion	Frequency
Satisfaction	76
Awareness	70
Actual Usage	60
Intention to use	47
Existence	5
Perceived quality	1
2. In what ways do you (or your government) choose to promote e-government services to citizens?	
E-government promotional activities in practice	Frequency
Direct Marketing (official websites/emails/apps/fliers/online display, etc.)	15
Advertising (Paid advertisement by commercial or third parties)	13※
Usage Promotion (increase citizens demand, stimulate social demand, rewards, etc.)	13
Image campaign (government departments presenting good image of themselves to public)	11
Publicity and education (seminars, speeches, workshops, trainings, etc.)	10
Mandatory Use (Policy/regulation to achieve mandatory use of e-services by citizens)	6
Personal sales (face to face persuading, introduction at government gateway, etc.)	2
※The answer of "advertising" and "usage promotion" are equal in the rank	

Table 4-3. Results of pilot survey⁷⁷

⁷⁷ Source: Author

3. In-depth interviews: exploring governments' promotional activities in advanced e-government areas

Based on the results of the pilot survey, a preliminary understanding of the e-government promotional activities was achieved to provide underpinned concepts for the next step: in-depth interviews with governmental sectors. The purpose of this step was simple and crucial: to identify e-government promotion in the practice of current administrations, to serve as evidence for the conceptual model of promotion in the e-government area. Though the first two research questions were examined in the pilot survey, the fundamental items of objectives and pattern of e-government promotion required a thorough approach to build a comprehensive model of promotion. A number of concepts have been studied, researched, and introduced into the practical world of public marketing but the results of these practices could not be measured until specific movements were identified. Conducting in-depth interviews with the government side was important because of these interviews' empirical value beyond the theoretical discussions on the possibility of implanting marketing theory in the governing process. Through this attempt to approach the facts of governments' promotional actions, it was expected that a model could be developed consisting of each aspect of e-government promotion, and that it could be justified by quantitative data.

Accordingly, this section presents two parts of the in-depth interviews. As introduced in table 4-2, the first part was designed to gain a deep understanding of e-government promotion in the context of diverse Chinese political districts. In this part, the researcher chose interviewees from governmental departments from three regions representing different administrative systems within the Chinese culture, each with diverse governing mechanisms. The second part aimed to explore e-government promotional activities in mainland China, which is the focus of this research. Considering that the central-local relations in China, which are a critical topic as discussed in previous studies, may have a connection with and influence on e-government policies, interviews were conducted with both central departments and local administration.

Throughout China's long history, political changes have shaped the land. Regarding contemporary society, socioeconomic modernisation has resulted in the differentiation of the Chinese world. Furthermore, there is the complicated issue of cross-strait relations and 'one

country, two systems'; there indeed exists variance in the political system, which has no doubt affected the mechanism of administration and the day-to-day management of public affairs.

Nevertheless, it is difficult to deny that there are many commonalities in the operations of social management of all the Chinese regions. The present study examines e-government service as the subject in the area of public administration. As reference cases, e-government promotion in Taiwan, Macau, and Hong Kong was explored using in-depth interviews with government departments in charge of e-government issues. The interviews asked unified questions to the respondents from all the regions to allow comparison between different cases. Of course, in accordance with specific conditions in each case, some questions were added during the conversation regarding the particular development situation in that region. For instance, many governments have executed social media campaigns about their e-government services to raise users' awareness. Depending on the region, the same SNS application may achieve different popularity due to the culture, marketing strategy, and legal restrictions. Furthermore, due to the customised service-platform, governments may differ in their advertisement and ways of communicating with citizens, which directly relates to their method of promotion. This also provided an opportunity to discuss operational problems in the practice of e-government promotion.

Though Taiwan, Macau, and Hong Kong are not evaluated in the UN's global e-government survey due to the principle that only member countries can be included, another international study aforementioned examines the development of these regions: the Waseda-IAC e-government ranking. Figure 4-1 summarises the performances of mainland China, Taiwan, Macau, and Hong Kong in this ranking in the past years. The figure also derives three other top regions in Asia as a reference: Singapore, Korea, and Japan. Among the four areas examined in the present study, Taiwan is in the leading position with a steady development. Hong Kong shows good performance as well, but has fluctuated from 6th to 26th place in the past 12 years. Because Macau has only recently been added to the Waseda ranking, its earliest records are from 2011. Considering that the ranking authors claim that the investigation only covers regions with comparatively advanced ICT (Waseda 2017a), it is reasonable to judge that Macau is comparatively developed in e-government because its rank stays around 30th place. Similarly, mainland China seems to lag behind the above regions with an unstable rank range from 13th to 49th place. The only thing that can be confirmed about the performance of mainland

China is that its performance was good for a few years after the millennium, but then saw a surprising slide after that. Though mainland China rallied back to 44th in the latest survey published in 2017, it is still behind the other three Chinese regions in terms of e-government development.

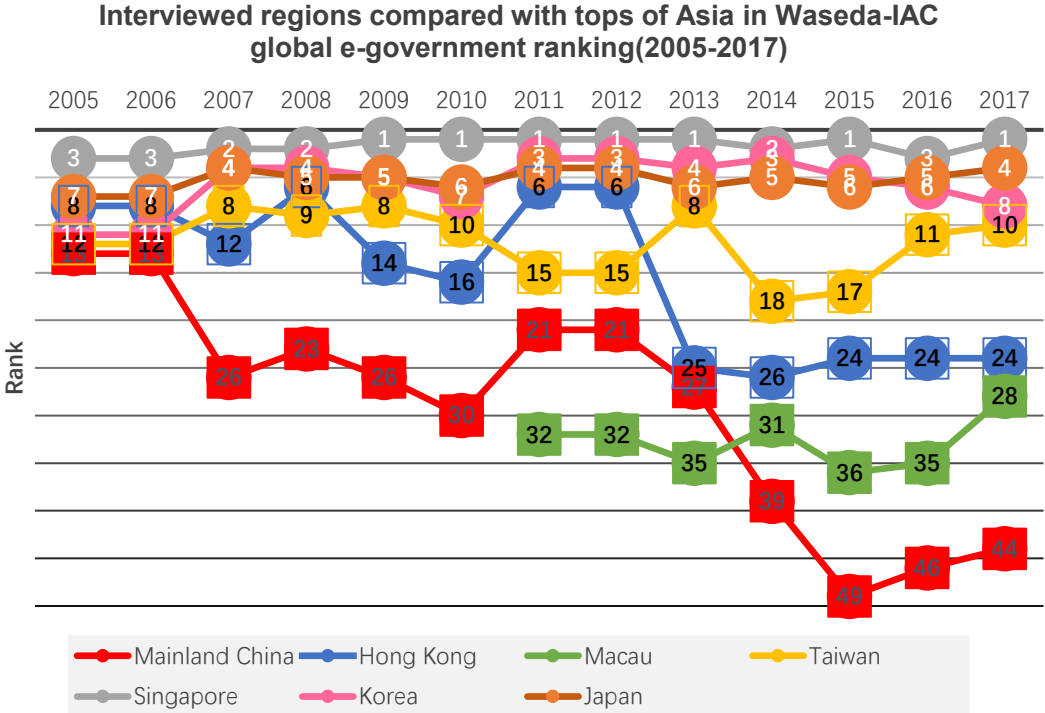


Figure 4-1. Rank changes of examined regions compared to the top performers in Asia according to the Waseda-IAC global e-government ranking⁷⁸

Regarding the research design, a unified questionnaire was prepared before conducting the interviews with the government officers. All the interviewees received the questionnaire before the session to have a general overview of the contents of the interview. Table 4-4 shows the list of general questions asked to the Taiwan, Macau, and Hong Kong government officers. As shown in the previous figure, Taiwan, Macau, and Hong Kong have laid a sophisticated foundation for e-service implementation: well-built IT infrastructure and human intellect. Therefore, a question (Q6) was added to their questionnaires about their strengths (Table 4-4): ‘As a comparatively high internet penetration area, is it true that your government does not need to do much promotion and that citizens are highly aware of the new e-government application (or website)?’ The aim was to identify the difference in promotion between areas

⁷⁸ Source: Author. The data derived from Waseda-the IAC global e-government ranking 2005 to 2017 data <http://www.e-gov.waseda.ac.jp/ranking.htm>

with uneven levels of e-government development. It seems natural to speculate that citizens who are highly educated and familiar with the internet and digital devices may proactively seek e-government services. This would create an easier situation for governments: they would not have to promote the existence of available e-services or argue for the advantages of using digital channels to reach governments. If that is the case, the promotional activities of governments should mainly serve as a tool when the services are initially released, or in a less-developed environment (poor infrastructure and less educated users). Besides, it may also be found that promotion is necessary regardless of the environment. In this study, in-depth interviews with representatives from three advanced Chinese regions are expected to clarify this.

Question items of in-depth interviews in part 1 (Taiwan, Macau and Hong Kong)
1. When government designs or publishes an e-Government application (or website), do you have background/marketing/usage investigations on citizens before released?
2. After government designed or published an e-Government application (or website), do you have any activities or plans to increase citizens' awareness of the new application?
3. After government designed or published an e-Government application (or website), do you have any activities or plans to raise the usage or satisfaction of citizens?
4. When government plans to publish an e-Government application (or website), what are the main sections that you will invest in? E.g.: Invest into upgrading the service (create by itself or outsourcing; focus on raising the quality of service, etc.) Invest into citizens (advertisement, face to face publicity, seminar and training course, etc.) Invest into government agencies (training staffs, back office) Invest into others
5. After government published an e-Government application (or website), what are the goals do you expect from citizens? Awareness / Intention To Use / Usage / Satisfaction / Others ()
6. As a comparatively high internet penetration area, is it true that your government do not need much promotion and get high awareness from citizens on the new e-Government application (or website)?
7. What are the main problems your government facing when you publish e-Government application (or website) to citizens?
8. If possible, please talk about the cases when your government uses SNS to promote its e-Government application (or website) to citizens.

Table 4-4. Question items of the in-depth interviews with government officers (Taiwan, Hong Kong, and Macau)⁷⁹

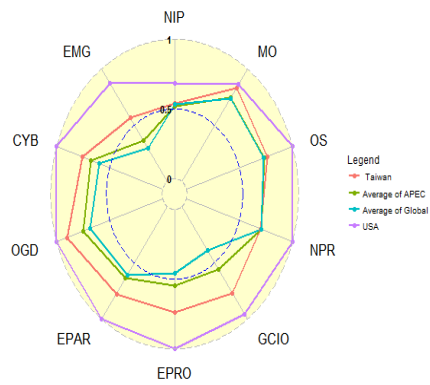
⁷⁹ Source: Author

3.1 Interviews with Taiwan government

As one of the 'Four Asian Tigers', Taiwan has experienced high-speed industrialisation and technological innovation in the past 50 years. The development of e-government has benefited from well-established infrastructure and intellectual abilities during this period of rapid growth. In a study by Kim (2007), Taiwan was evaluated as a high-performing e-government country, ranking second globally along with South Korea and Singapore because of their economic conditions and levels of education (Kim 2007). One of the global e-government studies by Brown University identified Taiwan's efforts to develop e-government and ranked it as first among 198 nations (West 2004b). Though Taiwan is not examined by the UN's Department of Economic and Social Affairs regarding the progress of its e-government, its achievement has nevertheless been noticed by global organisations and scholars.

The Waseda Country Report 2017 presented the performance of 10 indicators imbedded in the ranking of each region, compared with other regions in the same group (graphic or economic). Besides being compared with Asian countries, Taiwan was placed into the group of APEC regions because of its membership. Figure 4-2 shows the latest scores of e-government developments of Taiwan in comparison. The best achievement reflects exactly what the government of Taiwan has prioritised: open government data. The open data service is one of Taiwan's intensified projects; it has its own promotional outlines such as 'drafting open data regulations', 'provision of a public platform', and 'formation of a government culture which encourages data openness' (NDC 2015). In the latest general e-government plan, 'D-Government Plan' (2017-2020), the data-driven policy emphasises an important element in addition to the open data criteria: citizens' participation in e-government. As many have argued in the literature, no matter how fascinating the e-service platform may be, it has no value without active users. Therefore, the government of Taiwan may direct its promotional strategy at encouraging citizens to participate in the e-services and to contribute to public platforms in turn. This is in line with the goal that the government has manifested in its e-government plan: 'to create value by public-private collaboration, to be accountable by civil governance' (NDC 2017).

APEC Economies



ASIAN Countries

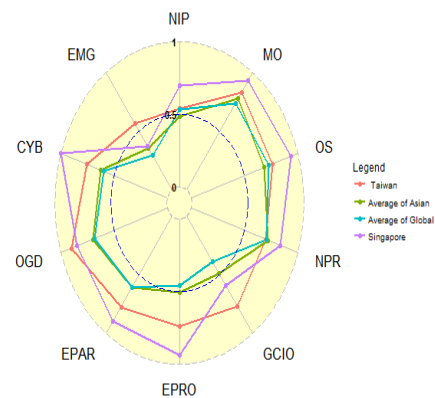


Figure 4-2. Taiwan's positioning in a global organization and in a region⁸⁰

The respondents from Taiwan were located in the 'National Development Council' (NDC) department, an organisation responsible for setting out policy guidelines on a national scale. In the NDC, the department of information management oversees ICT strategies including e-government policy. The interviews were conducted in August 2016. The present author visited the department of information management in Taipei to meet three officers. Besides the prepared questions, some divergent questions and ideas were recorded as well as if they related to the theme of the interview.

The first question focused on the preparation, as the background research (marketing/usage investigations) on users. Respondents confirmed that the government in Taiwan seeks citizens' opinions on a new service before it is enabled. Different types of channels are used to reach citizens, including holding colloquia offline, releasing news and related information online and requesting feedback from the public, etc. An emphasised method was hearing citizens' voices through civic community. According to the interviewees' information, civic communities and city groups play a highly active role in Taiwanese society. Most of these organisations are composed of volunteers from diverse professions who are passionate about helping society and participating in public affairs. Government can collaborate with communities to gather citizens' opinions on public policy, especially if

⁸⁰ Source: Reproduced based on Waseda (2017b)

communities can reach specific individuals more easily than the government can. For instance, unlike people who are enthusiastic about public affairs and want to make their voice heard, some citizens will not express their opinions proactively unless they are required to. Furthermore, the digital divide may influence this issue, because the government increasingly relies on digital channels, and citizens with difficulty using the internet can easily ignore them. Hence, the Taiwanese government has adopted both online and offline methods to avoid potential bias in public opinions collection.

Questions 2 and 3 were designed to verify one of the key research questions: What kinds of promotional activities has e-government adopted in practice? Of course, before answering this, it was necessary to confirm the existence of such activities in the first place. Respondents introduced one of the most important elements of Taiwan's e-government as 'digital opportunity'. Government has continued to conduct digital opportunity surveys, even 10 years after discovering that the issue of the digital divide was less serious. Since then, digital opportunity has been prioritised during the implementation of ICT policy. The focus has been on rural and remote areas regarding their infrastructure construction, staffing, and social services. In the case of e-government services, building a digital opportunity centre in these areas could enable residents to access the internet and e-services, as could stand members standing by to provide immediate help when citizens need it. Another kind of promotion was also mentioned as being a 'home-delivery service'.

As a rapidly ageing society, Taiwan has to respond to the increasing needs of aging citizens. Considering that it is difficult for some seniors to go outside to apply for public services, government has offered door-to-door visits by staff members who bring digital devices to senior citizens' homes. After these staff members or social workers have taught the elderly how to use e-service platforms, they can enjoy the interaction with the government at home instead of going to the service desk every time. Besides, helping senior citizens learn to use digital devices can foster their interests in the internet, resulting in more active engagement in society in the future. The respondents mentioned other promotional methods as well to raise citizens' awareness and usage, such as advertisements placed on TV and internet search engines; press conferences on new published e-services; face-to-face sales; lottery for electronic invoice; lowered cost of e-tax; and so on.

Regarding the goals of e-government promotion, respondents advocated for the

fundamental importance of awareness, followed by intention to use, usage, and satisfaction. To increase citizens' intention to use the e-services and "loyalty" of the applications, more efforts have been made, for example, to streamline the e-platforms. A survey about citizens' satisfaction with e-government services is conducted annually, in addition to some more frequent investigations held by the NDC. User experience is the most valued key performance indicator for the government; less popular services require immediate improvement to avoid abolishment. In this way, the respondents claimed, citizens' usage and satisfaction may increase. Regarding investments besides promotion, the government in Taiwan forces officers and frontline staff to be trained on the newly released service as internal preparation. The government invites private sectors to join the discussion on the new service, after which adjustments can be made.

Regarding the necessity of promotion in an advanced area—well-based infrastructure, high percentage of internet users, and enhanced citizen literacy—the respondents of Taiwan emphasised their basic role of creating a user-friendly environment for citizens. The rule is entirely centred on citizens: preparing the fastest, simplest service platform whenever citizens need it the first time. For instance, efforts have been made to ensure that citizens can obtain the service they want via search engine (e.g. Google). More and more users are adopting mobile devices to access the internet, and therefore the design of e-service platforms should be improved to correspond to the change in user habits. Furthermore, the government expects one more effect: the perfection of e-services can increase word of mouth, resulting in increased active users and satisfaction. The respondents also added that government still needs to remember to remind or inform citizens about available e-services proactively instead of waiting for the alternative situation. The more citizens become familiar with the services, the more they can adopt the e-channels naturally.

During the interviews, the respondents touched upon the difficulties they have faced in the process of building e-government services. As a department responsible for organising and coordinating, the NDC needs to strengthen cross-sectoral cooperation in the delivery of e-government services. It turned out that the preparation of G2G had a great influence on the frontline G2C application. Especially under the guidance of a citizen-centric spirit, government must respond to the changing needs of citizens in a timely manner, leading to more comprehensive and varied approaches for cooperation. All the inner works are essential

and invisible.

Lastly, the research asked about the use of SNS in the delivery of e-government services. The respondents cited the example of the 'Public Policy E-Participation Platform'⁸¹, which is an e-service enabling citizens to take part in the political course. The platform not only provides normal e-participation services such as online petitions, online public comments, etc., but also integrates the necessary applications regarding citizens' political rights. One way to help spread a petition is to connect it to SNS. The 'i-Voting' petition system allows the initiator to share the petition to SNS platforms to gain attention. Moreover, if more than 3,000 people second the petition, it can be registered formally and delivered to the administrative sectors responsible for the administration. A much wider space for public discussion can be created when the petition becomes available for SNS sharing and commenting. Figure 4-3 provides an example of one petition that was signed 3,181 times, thereby crossing the threshold. The petition was proposed on 7 September 2017. The petition concerned the free lanterns distributed by city government because of environmental considerations. It could be easily shared to Facebook, Line, and Google+ platforms, and the most shares was to Facebook (3,092 times). Though 60 days was given to gather adequate votes, the petition obtained more than 3,000 signatures in just 27 days. A small design to connect to SNS platforms could attract massive numbers of citizens in a short time because of the enormous user base of commercial providers. This case may enlighten government in promotional activities to pay attention to the use of SNS.



Figure 4-3. One petition passed the online second phase in the i-Voting system⁸²

⁸¹ The platform can be found at <https://join.gov.tw/>

⁸² The image captured from <https://taipei.join.gov.tw/idea/detail/fa7b5c38-13de-4b58-acd7-f855af9baac1>

3.2 Interviews with Macau government

Macau is officially called the Macau Special Administrative Region of the People's Republic of China; it is one of the special administrative regions belonging to China. Together with Hong Kong, Macau has a high degree of autonomy under the famous constitutional principle of 'One Country Two System' raised by Deng Xiaoping in the early 1980s. Macau is well known for being the 'most densely populated city', with a total population of 648,500 living in an area of 30.5 square kilometres (GOVMO 2017a). Nevertheless, Macau is regularly in the top three in the GDP per Capita Ranking (WorldBank 2017). Compared with Taiwan and Hong Kong, the e-government of Macau may have a lower-key image key from an outsider's view. The government of Macau values the delivery of e-government services to citizens by formulating continuous e-government plans to boost development (Lee and Lei 2007). In the latest Electronic Governance General Plan (2015-2019), five objectives were enacted: 'using better staff and streamlined administration to realize good governance', 'supporting the development orientation of "one centre" and "one platform"', 'fulfilling the needs of various parties', 'maintaining a balanced development between services and information security', and 'consolidation and collaboration of common resources' (SAFP 2015).

Figure 4-4, derived from the five-year plan, illustrates the structure with which the government of Macau implements e-governance⁸³. As front-windows multiple channels are prepared to deliver the e-services to all stakeholders including citizens, businesses, enterprises, civic associations, agencies, and decision-makers. There are four ways for the public to reach the government: the government portal, self-service (kiosks), government service centre, and government information centre. The use of kiosks was mentioned in the literature review and is further explained in the interview results, since it is one of the greatest efforts the government of Macau has made to achieve a more convenient service delivery for the public.

Along with Taiwan and Hong Kong, the development of the Macau e-government is not evaluated in the UN's e-government survey. Fortunately, the Waseda-IAC global e-government survey introduced Macau to the list of investigated regions in 2011. In the newest ranking of 2017, Macau reached its highest position (29th) of the past seven years. Figure 4-5

⁸³ In the case of Macau and Mainland China, the term of "e-governance" or "e-administration" is frequently used instead of "e-government". *详情见 literature review

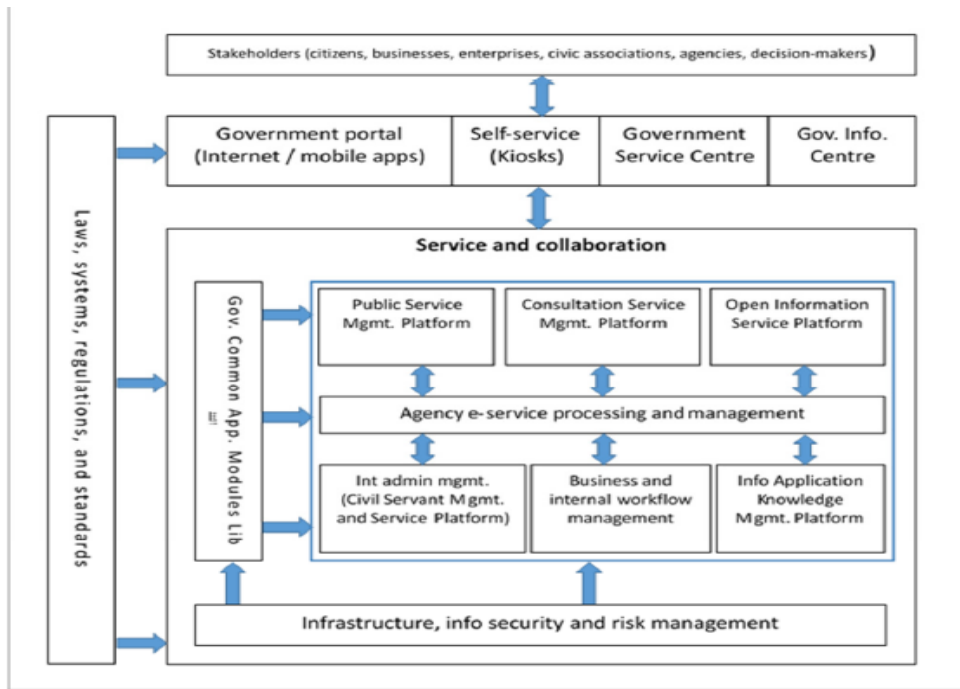


Figure 4-4. "Electronic Governance Development Framework"⁸⁴

demonstrates Macau's e-government development performance in the 2017 Waseda ranking for each indicator. The best scores were obtained for 'Network Infrastructure Preparedness' and 'National Portal', surpassing the Asian and global averages and approaching Singapore (ranked first in the world).

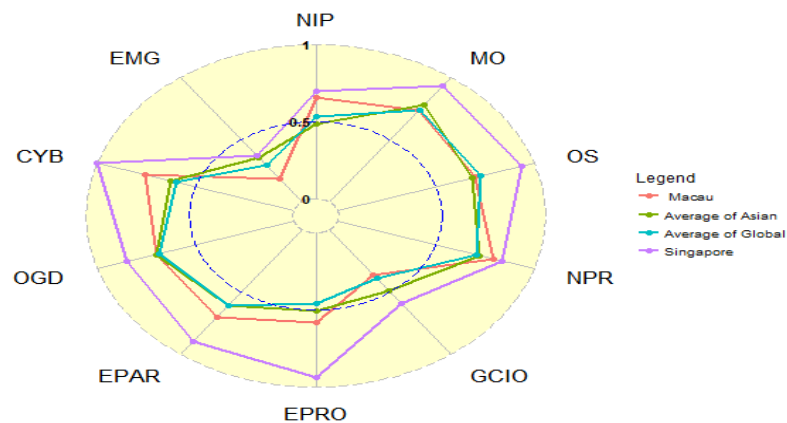


Figure 4-5. Macau's positioning in the world and in a region⁸⁵

⁸⁴ Source: The image captured from SAFP (2015)

⁸⁵ Source: Reproduced based on Waseda (2017b)

The respondents from Macau came from the Department of Electronic Government Affairs (DAGE), belonging to the Directorate of Administration and Public Administration Services (SAFP) of Macau. The roles and authorities of this office are the following: '(1). Organising research and suggestion to promote e-government development strategy to coordinate public administration reform of Macau; (2) Establishing e-government infrastructure and information system by corresponding perfection measures; (3) Proposing e-solution towards promoting the development of e-government system.' (DAGE 2017) The office is clearly endowed with jurisdiction over e-government issues, and is responsible for both enacting general plans and implementing e-services with technological and practical support. The researcher visited the DAGE office in August 2016 to conduct face-to-face interviews with three officers, based on the same pre-designed questionnaire as the one used in the interview with the respondents from the NDC in Taiwan.

In response to the first question on conducting background and marketing research before releasing a new e-service, the respondents' answers were affirmative. They indicated that especially for some important service, there would be collaboration between the government and a university/research centre to undertake a preliminary study and user-demand survey to help understand the users of that e-service. The usage rate of existing public service was also an important index for digitalization and innovation according to them, and they stated that users' needs are fundamentally decisive for designing e-government services. The government of Macau has fully acknowledged the importance of baseline survey. an organisation named the Public Service Coordinating Committee exists to collect various data on public services provided by every government department. The committee offers evidence to decision-makers to establish the most needed e-service applications, based on prioritising citizens' needs, among those of other stakeholders. There are also channels for the government to reach citizens' voices including media and the Public Information Centre (an organisation under SAFP). The Public Information Centre was founded with the aim to 'establish a more effective centralized distribution mechanism to safeguard the integrity and accuracy distribution of the government information', and 'serves as a vital framework for collecting public opinions and building a communication path between the public and the government' (SAFP 2017).

This one-stop service centre plays the role of connecting the government and stakeholders with direct information delivery, as well as providing a decision-making basis directly from

citizens.

Regarding the thematic question of promotional activities and their objectives, the respondents firstly affirmed that there are corresponding movements towards raising awareness in the first place, which are divided into two: one is aimed at internal departments of government, while another faces citizen. In the former, some training, seminars, and workshops are organised to increase civil servants' awareness of e-government services. For citizens, websites devoted to the introduction of e-services are available, as are multiple methods of exhibition, ICT creative competition, TV, and new media advertisement, among others. Collaboration with the media power is a useful way to campaign for government policy and service. Respondents from both Macau and Taiwan offered some details about how they cooperate with media to publish information for citizens. In this collaboration, social media are utilised as an effective tool. On the other side, face-to-face contact is not ignored in the case of Macau. Though Macau is a small city, three government service centres have been set up downtown as traditional channels to provide face-to-face service windows. Public servants work there to introduce e-services to citizens. For instance, if the government of Macau plans to promote one unified account across diverse e-services, the citizens who come to the government service centre to apply for relevant service will receive recommendations from staff members about the advantages of creating an account, thereby making them aware of the new application and helping them with the subsequent procedure.

Similar to Taiwan, Macau may face a rapidly aging population in the next 20 years (DESC 2014). When the present author enquired about whether there were any measures aimed at senior citizens, the respondents introduced their self-service kiosk as one of the key projects of e-government service implementation. So far, there are 42 kiosk locations, and some services are delivered 24 hours a day throughout the year. Senior citizens who are unfamiliar with websites or mobile devices can go to nearest kiosk to apply for service with the help of public servants nearby, instead of taking a long way to the public service centre. The kiosk can provide various services across different departments, such as the Financial Service Bureau, Identification Service Bureau, Public Security Police Force, SAFF, and so on. E-payment has been enabled in the kiosks as well, so that citizens can easily enjoy e-transactions via multiple payment methods including Macau-pass, quick-pass, and union-pay (Figure 4-6).

Regarding increasing citizens' satisfaction, besides hearing citizens' voices through public

information centres and websites, an individual committee has been established to collect opinions and suggestions from the public; it consists of citizen representatives and high-rank government officers. The committee serves as a third-party organisation that produces regular reports on public issues and services, requiring each department to hand in necessary data for discussion. It is said that the committee’s report plays as important role in gaining credibility for the improvement of the government sector. The respondents admitted that satisfaction could be increased by perfecting e-services to answer users’ needs. Therefore, besides a prompt and unimpeded channel to hear from citizens, these citizens should also be answered quickly.

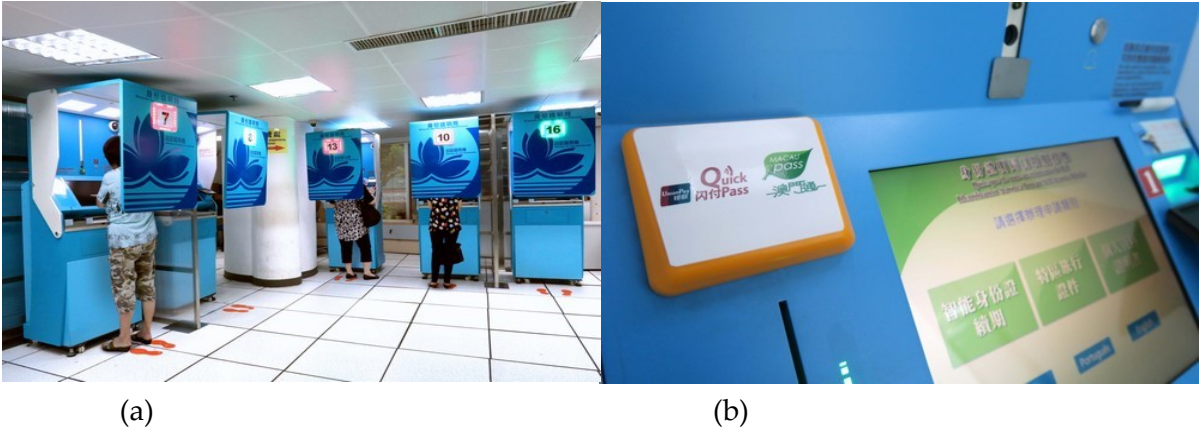


Figure 4-6. (a) Self-service kiosk in Macau; (b) Multiple payment options are offered⁸⁶

Regarding the priority of the objectives, the respondents from Macau regarded awareness and satisfaction as the two most important indicators of governments’ promotional efforts. Though satisfaction was identified as the final goal, they agreed with the idea of considering awareness in the first and basic position. Usage was subsequently mentioned when the respondents considered hypothetical situations: one asked, ‘What would be the point if there were only two citizens adopting e-services with a high level of satisfaction?’ On the other hand, if high usage is associated with low satisfaction, then the situation is still negative. According to the respondents, a relatively ideal condition is to achieve a certain usage and high level of satisfaction.

⁸⁶ Source: The image captured from GIB (2017)

Macau is considered to be an ICT-advanced area, especially regarding citizens' mobile usage. In the International Telecommunication Union's (ITU) 2016 Global ICT Development Index, there were 324.43 active mobile-broadband subscriptions per 100 inhabitants in Macau, ranking first among 185 investigated regions (ITU 2016). This extremely high level of mobile penetration was confirmed by the respondents from Macau in the present study: they stated that citizens of Macau are quite familiar with digital devices and access to the internet. Many young people seek e-services directly without extra information from the government. Hence, the respondents considered that certain promotion could be sufficient in the context of Macau. The effect of 'word-of-mouth' was valued as well as whether the government could offer good e-services to citizens.

The largest difficulty in the process of e-government promotion was discussed at the end of interview. The same issue raised by the respondents from Taiwan was mentioned again here: the information sharing and cooperation between diverse departments. In Macau's aforementioned latest Electronic Governance General Plan (2015-2019), a mechanism of collaboration was established to facilitate cooperation in the G2G area. According to the plan, a special group was founded regarding e-government issues in each government department. This group consists of a division head, IT department officers, and relevant department staff who are all trained with advanced knowledge of e-government. The group was established to accelerate cross-department cooperation and communication. Furthermore, a special workgroup under the Public Administration Reform Advisory Committee (CCRAP) is responsible for coordinating cross-section e-government projects. In this workflow, DAGE plays the role of coordinator, providing knowledge and connection to each department, helping them foster the best solution they can. The respondents emphasised that after some practice, they found that through the communication mechanism, a good solution appears without their massive participation at times. They only intervene with suggestions when the negotiation does not yield any results.

As the last question, the author enquired about whether the government of Macau utilises SNS in promotional activities. The respondents confirmed their use of SNS and social media such as YouTube, Twitter, Facebook, and WeChat to promote e-government services to citizens. WeChat in particular has been adopted by more than 30 departments, creating public accounts. It is said that a policy-orientation has guided government sectors to adopt WeChat as a

preferred channel to publicise public information, news, and actions to citizens. Regarding the public use of WeChat, the author introduced WeChat utilisation in mainland China as a government platform, including e-information, e-consultation, and e-transaction. According to the respondents, unlike mainland China, Macau has a comparatively strict restriction on e-payment systems. All public e-transactions should be conducted via the official platform authenticated by the government. It is also said that though the rapid growth of WeChat usage has started to change the way of public-private communication, and that the WeChat application has been adopted as no more than a communication tool, instead of a 'super-app' as it is now in the mainland.

3.3 Interviews with Hong Kong government

As one of the 'Four Asia Tigers' along with Taiwan, Hong Kong experienced rapid industrialisation and economic growth starting in the 1960s to enter the advanced and high-income economies by the 21st century. The GDP per capital of Hong Kong was ranked 15th in 2017 among all the investigated regions (WorldBank 2017). Hong Kong valued the development of ICT at a very early stage, so that it was ranked as sixth in the ITU's ICT Development Index 2016 out of 175 regions (ITU 2016). It was also ranked sixth in the latest Global Competitiveness Index 2017-2018 published by the World Economic Forum (WEF 2017). In the WEF ranking, Hong Kong came in first place on the sub-index of infrastructure. In a more illustrative ranking regarding ICT development, the WEF's Global Information Technology Report, Hong Kong was ranked 12th out of 143 regions (WEF 2016). All these international rankings show that Hong Kong is an advanced ICT region with well-based infrastructure and human resources. Furthermore, in the latest Waseda-IAC e-government ranking, Hong Kong was in the 24th position. Its performance on 10 sub-indicators is presented in figure 4-7 below.

Hong Kong's scores exceed the average of APEC and ASIAN regions on most indicators, especially 'Network Infrastructure Preparedness' and 'Emerging Technologies'. Like other global indexes, the results revealed that Hong Kong is ahead in terms of technological innovation. This is undoubtedly a strong foundation for the development of e-government, not only because of technological support, but also because of an ICT-friendly social environment in which citizens may have a higher acceptance of e-government services.

APEC members

ASIAN Countries

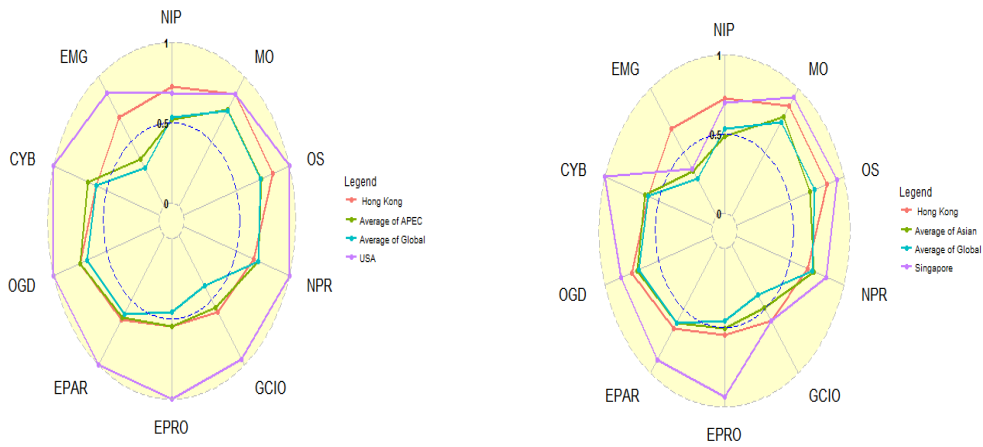


Figure 4-7. Hong Kong's positioning in a global organization and in a region⁸⁷

However, it is worth exploring the government's effort in promoting e-services in such a well-prepared digital society. The result could provide evidence of the necessity of public marketing activities in promoting e-government services, or not.

The respondents from Hong Kong came from the Office of the Government Chief Information Officer (OGCIO), whose name clearly states its function as the government CIO office in charge of Hong Kong's whole ICT policy. The OGCIO is responsible for ICT policies, strategies, programmes and measure, as well as providing the public with ICT services in an efficient and convenient manner by using ICT appropriately, and supporting bureaux/departments to make the best use of ICT to achieve their policy objectives (OGCIO 2017).

The latest general ICT policy, called the 'Digital 21 Strategy', has been the blueprint for guiding and enhancing Hong Kong's ICT development since 1998. E-government delivery represents a huge share of the plan. The Digital 21 Strategy has been updated periodically, with the newest version having been released in 2014. The Hong Kong government keeps updating its progress report regarding e-government development, in which 'IT

⁸⁷ Source: Reproduced based on Waseda (2017b).

Infrastructure’, ‘Cloud-Based Application Services’, ‘E-Government Services to the Public’, ‘Smart City Management’, and ‘E-Government Development in B/Ds’ are five main sectors to be examined (OGCIO 2014). From the progress report, it is clear that Hong Kong government pays sufficient attention to the development of emerging technologies, as well as adopting them into the practice of e-government in every aspect (G2G, G2C and G2B). The ambition to hold the status of a leading digital city has encouraged Hong Kong to keep pace with the newest technological innovation such as the Internet of Things, cloud computing, and Big Data. In this trend, government sectors also benefit from social progress to establish a more efficient, convenient, and citizen-centric e-government system. In a way, the development of e-government in Hong Kong benefits from a naturally advantaged environment that is well prepared in terms of economy, technology, and a high level of human capital.

Unfortunately, for practical reasons, the author could not interview the respondents in person. Instead, the respondent of OGCIO provided detailed answers to a questionnaire. Though it is a pity that no face-to-face interview could be held, the author appreciates the responses and help from the respondents from Hong Kong. Their answers are still valuable for understanding the promotional activities regarding e-services in Hong Kong from an internal perspective. All the questions were the same as those posed to the respondents from Taiwan and Macau, formulated around the theme of e-government promotion.

The first question asked about background/marketing/usage investigations on citizens to confirm the existence of such activities in each government. The respondents from Hong Kong verified that ‘customer research has always been an integral part of the development of GovHK’. GovHK⁸⁸ can be regarded as the most important e-service platform of the Hong Kong government. As a one-stop access portal, it covers all the entrances to every e-service that the public may need. Like the one-stop service platform of other advanced countries such as the UK⁸⁹, the US⁹⁰, and Canada⁹¹, among others, Hong Kong government has pursued a more streamlined system: simple, but powerful. The e-service window is indeed as concise as it can be, under the citizen-centric idea of offering the best user experience (figure 4-8).

⁸⁸ The website can be found at www.gov.hk.

⁸⁹ The website can be found at <https://www.gov.uk>.

⁹⁰ The website can be found at <https://www.usa.gov>.

⁹¹ The website can be found at <https://www.canada.ca>.



Figure 4-8. The homepage of GovHK⁹²

The respondents claimed that a variety of studies were conducted before the launch and revamp of GovHK to seek citizens' views on propositions, branding, design, navigation, and usability of the OGCIO portal. These background investigations were carried out to ensure that 'GovHK could meet their needs and align with their expectations and usage habits'. Though no more details were obtained about these studies, the existence of a preliminary check on citizens' needs was confirmed by the answers of the OGCIO officers.

Questions 2 and 3 concerned promotional activities directed at raising citizens' awareness, usage, and satisfaction. Regarding the first question, the respondents explained their movements to introduce and reinforce GovHK as a one-stop portal for information and services provided by the Hong Kong Special Administrative Region Government to the public. These promotional activities have different types. For instance, when the GovHK responsive web design entered the rollout phase in late 2016, a series of publicity programmes were planned with the following objectives: '(1) to accentuate GovHK as a one-stop portal of the Government to the general public; (2) to promote and raise the public awareness on the key services and useful information available on GovHK; (3) to boost visits to GovHK and allow the public to experience the new user interface of responsive design.' From these goals, at least

⁹² Source: The image captured from <https://www.gov.hk>.

two key indicators can be identified: the awareness and the actual adoption (visit) of e-government services. In response to the next question, the respondents added that, 'the promotion activities mentioned in the answer to the question 2 above also serve the purpose of raising the usage and satisfaction of our users.' Again, though no further details were provided regarding the patterns and implementation of the promotional activities, these answers helped to identify two significant elements of e-government promotion in Hong Kong: first, promotional activities are indeed conducted by government sectors; and second, the objectives of such activities are in line with the hypothesis and findings from the interviews with the respondents from Taiwan and Macau.

Regarding the allocation of their investment in e-government services, the respondents answered that the 'Hong Kong government has invested in the development and maintenance of the GovHK portal to provide quality and up-to-date services to citizens to access government information and services.' The respondents explained that hardware, software, implementation services, and internal human resources for the system development are all part of the maintenance work. Meanwhile, the importance of promotion was also identified, and one respondent wrote: 'Investment in promotion through various channels is also important to raise awareness of our citizens on the services of the GovHK Portal.'

Regarding the priority of objectives, the respondents affirmed that the three objectives of the promotional activities are awareness, satisfaction, and adoption. The respondent stated that 'GovHK places great emphasis on the user satisfaction and awareness of services for better delivery of services.' For example, a survey has been regularly conducted since 2007 to 'gauge the satisfaction level, awareness, and usage of the portal to keep improving the services provided.' The results from the two other regions of study were similar with Hong Kong, showing that government has fully acknowledged the importance of awareness, usage, and satisfaction and targets these objectives during promotional activities.

As an outstanding digital city, Hong Kong is expected to benefit from its natural ICT-friendly environment to promote any e-government projects. In response to Q6 on this topic, one respondent answered: 'high internet penetration area may not need much promotion but still gets high awareness from citizens on the new e-government application'. The respondents considered that promotion remains a necessity by saying that 'We believe that promotion of services is necessary to bring the available services to a wider audience.' The respondents gave

examples of the use of social media such as YouTube and Twitter to reach out to a particular group of citizens who are used to these kinds of communication channels. They emphasised that in a situation where there are new services launching or a major revamp of existing e-services, a publicity campaign has a great impact on attracting citizens to increase their awareness and adoption.

Regarding the difficulties they may face in promoting e-government services, the respondents mentioned two major challenges the Hong Kong government experiences from different viewpoints. From the usage perspective, the respondents stated that a publicity plan is needed to 'tie in with the rollout to reach the target audience for the new services to achieve a satisfactory utilisation rate'. It is difficult to conduct effective promotion if the government cannot grasp the real needs of citizens. Therefore, the respondents from Hong Kong indicated that they conduct research before the launch of new services and surveys after the launch to gauge user satisfaction. Another aim is to 'collect opinions on potential service improvements at a suitable juncture.' From a technical perspective, the Hong Kong government is concerned with issues of system security and data privacy. To tackle these problems, firstly, 'protective measures have been devised at both front and back ends to safeguard the system security and data privacy'. Secondly, the Hong Kong government has formulated related policy to 'bring in third-party assessments and audits to ascertain the robustness of security measures in place for proper protection before a production launch.'

The last question concerned the use of SNS to promote e-government services to citizens. The respondents indicated that the Hong Kong government has not relied on SNS to promote its e-government website. Though they did not elaborate, one can imagine that the Hong Kong government has focused on its one-stop portal (GovHK) to provide citizens an 'all-in-one' experience so that no other complicated procedures are needed. Therefore, citizens only have to remember and be aware of one simple website, no matter the type of service they need to reach. In this case, it is reasonable that the government does not need to rely on SNS to conduct publicity campaigns.

4. In-depth interviews: exploring government’s promotional activities in China

Compared with Taiwan, Macau, and Hong Kong, the performance of mainland China in terms of ICT and e-government development is lower. Table 4-5 illustrates the ranking changes of mainland China in global surveys regarding ICT and e-government development circumstances in the past 10 years. The following international rankings are included: the ITU’s ICT Development Index (ITU 2016); the WEF’s Networked Readiness Index (WEF 2016); the UN’s E-Government Development Index (UN 2016); and the E-Government (D-Government) Ranking by Waseda-IAC (Waseda 2016). Though some data are missing, we can gain an approximate understanding of the changes. As observed, China has maintained a medium position in each ranking with periodical rises and drops.

	UN	Waseda	ITU	WEF
2007		26	73	59
2008	65	23	79	46
2009	Data missing	26	Data missing	37
2010	72	30	79	36
2011	Data missing	21	78	Data missing
2012	78	21	78	51
2013	Data missing	27	86	58
2014	70	39	Data missing	62
2015	Data missing	49	82	62
2016	63	46	81	59

Table 4-5. Changes in China’s ICT and e-government performance on international rankings in the past 10 years⁹³

The latest performance of mainland China in terms of e-government development can be tracked through the 2017 Waseda-IAC survey, as shown in figure 4-9, compared to other regions in the same area and economic organisation, China is obviously lagging behind on some indicators such as ‘e-participation’, ‘Network Infrastructure Preparedness’, and ‘Open Government Data’, on which it scores even lower than the average level. The weakness in its infrastructure is not a temporary problem which hinders the development of ICT, because

⁹³ Source: Author. The data derived from UN e-government survey <https://publicadministration.un.org/egovkb/en-us/Data-Center>; Waseda-IAC digital government ranking <http://www.e-gov.waseda.ac.jp/ranking.htm>; ITU ICT development Index <http://www.itu.int/net4/ITU-D/idi/2017/index.html>; WEF Global Competitiveness Index <https://widgets.weforum.org/global-competitiveness-report-2017/>.

China is suffering from a huge economic gap between urban and rural areas. Despite the continued high-speed growth of the whole economy, inequality between the rich and poor has been amplified under superficial prosperity (Tobin 2011). One of the three sub-indexes of the UN’s e-government survey, the Telecommunication Infrastructure Index (TII), was introduced in 2002 to represent the level of a nation’s telecommunication infrastructure preparedness. China has scored lower on the TII than on the other two indicators, Online Service Index (OSI) and Human Capital Index (HCI), in the past surveys. For instance, China scored 0.3673 on TII, 0.6860 on HCI, and 0.7681 on OSI in 2016. Its less-established infrastructure can be considered as one of the practical reasons for China’s lower scores regarding the global standard for ICT and e-government development.

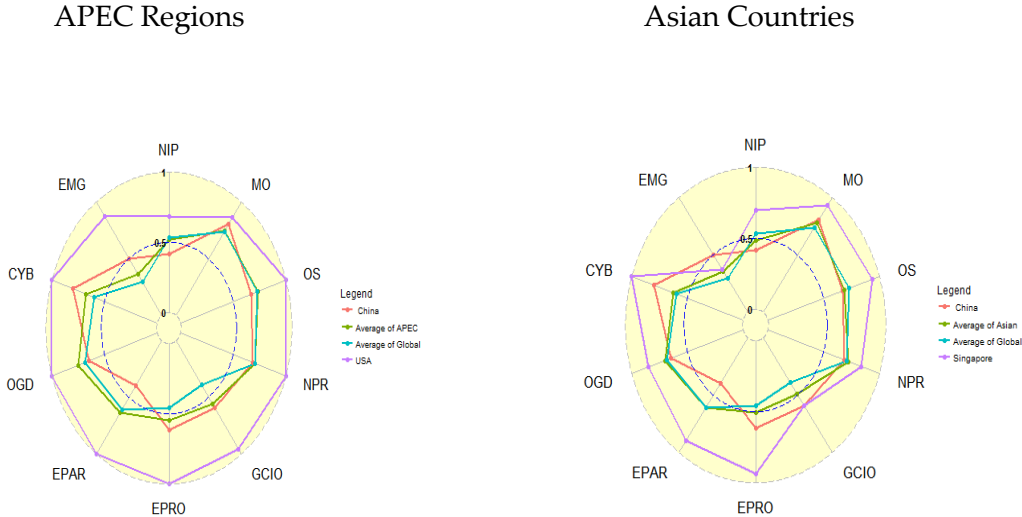


Figure 4-9. China’s positioning in a global organization and in a region⁹⁴

The low scores on the two other indicators can be explained by policy consideration. Especially in the structure of ‘E-Participation’ in the Waseda ranking, e-decision-making and e-policy-making account for a large proportion of the evaluation. However, such political cultures strongly differ in their political systems and social mechanisms, rather than the technological gap. The same applies to the performance of ‘Open Government Data’, as China may have its political concerns regarding following the steps of western countries in making its data public. On the other hand, it is worth noting that China has achieved comparatively reasonable scores on indicators such as ‘Management Optimisation’, ‘Online Service’, and

⁹⁴ Source: Reproduced based on Waseda (2017b)

'Cyber Security'. They can be considered as the basic elements of e-service delivery, and their development can be observed in a decent direction in modern China.

4.1 Interviews with central government

As mentioned in the methodology section, questions prepared for the China officers were slightly different than those for the three other governments. The fact-check was based on the domestic actuality of e-government strategies, and extra enquiries were added on the utilisation of commercial platforms are added. The respondents came from the China Center for Information Industry Development (CCID), located in Beijing. The CCID is an official think-tank under the direct supervision of the PRC's Ministry of Industry and Information Technology (MIIT), founded in 1995. The CCID is responsible for providing various services including consultancy, certification, policy suggestion, and technological support to governments and the public (CCID 2017). As a subordinate department of the MIIT, CCID has been appointed to help formulate national e-government plans and to provide solutions regarding some local e-service implementation. The present author visited the CCID in Beijing in August 2016. A face-to-face interview was conducted with one high-ranking officer, and another expert agreed to a telephone interview. Table 4-6 lists the questions asked during these interviews.

Question items of in-depth interviews with CCID officers from China
1. What is the framework for e-government services regarding central and local administration in China?
2. Who are mainly responsible for G2C applications of e-government services?
3. In the practice of G2C, do central government have any guidelines for local government to establish e-government services?
4. Are there any background/user-needs/satisfaction surveys on citizens regarding e-government services?
5. After government published an e-Government application (or website), what are the goals do you expect from citizens? Awareness / Intention To Use / Usage / Satisfaction / Others ()
6. Are there any promotional activities to raise citizens' awareness/usage/intention to use/satisfaction on e-government services?
7. If possible, please talk about the cases when your government uses SNS to promote its e-Government application (or website) to citizens.

Table 4-6. Interview questions asked to officer of the CCID of China⁹⁵

⁹⁵ Source: Author

As previously discussed, the CCID is representative of the decision-making system of the central government. The present author first planned to explore the central-local relations in the implementation of e-government services by asking about the framework for e-services regarding central and local administration. The respondents' answers were in line with the literature: they indicated that central government took the responsibility of financial investment in the initial phase of e-government to build a national ICT infrastructure, such as the 'Golden Projects' (Golden Bridge: national commercial internet service; Golden Card: national credit card network; Golden Gate: national electronic data interchange system, etc.). The central government's fiscal investment established the telecommunication infrastructure, a well-prepared foundation for further e-government projects. However, the respondents agreed that nowadays, local governments (provincial and municipal) are becoming the main investors in e-government projects instead of the central government. Especially considering the regional economic and social disparities in China, the development of e-government services has become increasingly reliant on local development plans differing across regions. The respondents provided some examples of local e-service projects, such as a provincial one-stop portal aiming to integrate the e-services of city-level administrations in Zhejiang Province⁹⁶; and a citizen cloud platform by the municipal government of Shanghai⁹⁷. These local e-service projects are all plotted, prepared, and implemented by the local authorities, based on the public's actual needs and priorities.

The role that central government plays is as a general planner, leading the overall direction of e-government development by formulating national ICT strategy, in which e-government services continue to be arranged in one of the key projects. For example, the Five-Year Plan is a series of economic and social initiatives at the national level which are enacted under the supervision of the CCP in the central government. Since the first five-year plan was published in 1953, periodical guidelines have led all the regions to develop their social development with the ambition of achieving progress step by step. Since the 10th Five-Year Plan (2001-2005), informatisation has been positioned in the core programs. ICT applications in each social area have been valued, and 'government management and social services should

⁹⁶ Zhejiang e-government portal: www.zjzfwf.gov.cn

⁹⁷ Shanghai Citizen-Cloud Platform: <http://app.eshimin.com/>

utilize digital technologies’ (Zhu 2000). In the 11th Five-Year Plan (2006-2010), ‘facilitating informatisation to optimize information sharing and utilization’ was mentioned in the chapter on ‘informatization’ (GuoShiWang 2009). Then, in the 12th Five-Year Plan (2011-2015), ‘e-government’ was clearly addressed for the first time as follows: ‘vigorously promote e-government development, facilitate the sharing and collaboration of government e-information systems, improve the systems of online administrative approval, open data, online petition, e-supervision and e-audit’ (Xinhua 2011). In the 13th Five-Year Plan (2016-2020), which is the latest plan, ‘Internet Plus Action’ has been raised, in which e-government development is subdivided into specific plans such as ‘Government Open Data’, ‘Public Cloud Platform’ ‘IOT Infrastructure and Platform’, and ‘National E-Administration System’, among others (PeoplesDaily 2016). The 13th Five-Year Plan is considered to place ICT development in the highest priority sector (Hong 2017). To underscore the importance of informatisation, the central government released the ‘National Informatization Development Strategy’ (2006-2020) in 2006, in which ‘Promoting E-Government’ was one of the nine strategic focus points (govCN 2006). Under the guidance of the Five-Year Plan and the informatisation strategy from the top leadership, MIIT is able to bring out sub-plans on e-government development. The most instructive document of the national e-government plan is the National E-Government 12th Five-Year Plan published by MIIT in 2012. The plan provides the first clear development indicators on e-government construction. Table 4-7 presents the numeric indexes of e-government development in the plan.

Domain	Indicator	Goal of Plan
Informatization of Public Department Services (G2G and G2E)	Coverage Rate of Central and Provincial Departments Services	Over 85%
	Coverage Rate of City Departments Services	Over 70% on average
	Coverage Rate of County Departments Services	Over 50% on average
Government Public Services and Administrative Applications (G2C and G2B)	Coverage Rate of E-Government Services above County Level Governments	Over 70% on average
	Coverage Rate of Street (township) Government Services	Over 50% on average
	Coverage Rate of Community Government Services	Over 30% on average
Information Sharing	Sharing Rate of Main Services	Over 50% on average
ICT applications	Connective Rate of E-Government Internet	Over 85% on average
	Achieved Rate of Technological Services in Professional Technology Agencies	Over 60% on average

Table 4-7. Main indicators of e-government development in the 12th Five-Year Plan period⁹⁸

⁹⁸ Source: Reproduced based on MIIT (2012)

Following the latest trend of emerging ICT such as Big Data, cloud computing, and IOT, the Chinese government has realised the need to reform e-government systems to keep pace with the growing internet society and face the challenge of ruling the generation of 'netizens'. In December of 2016, the State Council issued the 13th Five-Year National Informatization Plan to accelerate social informatisation development. It is in this plan that 'Internet Plus Government Service' was officially ascertained to be the landmark of e-government service development in modern China. According to the explanation of the 'Information Benefiting People Project' in the plan, e-government services have been stimulated with certain breadth and depth:

'1. Developing "Internet + Government Service". Devoting great efforts to public service as "one application, one service window, one-stop-portal". Integrating off-line and on-line service systems to streamline service-delivery, enhance administrative efficiency, and improve proactivity/accuracy/convenience of public service to improve citizens' satisfaction.

2. Developing a balanced level of public service delivery. To address the widely concerned issues of health, education, social security, employment, pension, trans-department and cross-level information sharing should be carried forward. Establishing universal coverage 24/7, and equitable public-service system by benefiting from informatization.

3. Developing open government. Enhancing information-supervision capacity and building a law-ruled/innovative/transparent/service-oriented government. Relying on CreditChina⁹⁹, information will be public regarding administrative approval and penalty in seven working days after the decision is made. The central government supports local governments at all levels to utilize government website, social media and other new applications to establish a "Government New-Media Matrix". Online public opinion should be valued and channels for democratic oversight and political participation must be ensured. Real-time online interaction services should be provided in public health, pension, education, and social security services areas' (GovCN 2016).

The respondents mentioned the 13th Informatization Plan as an example of the central government's movement in facilitating e-government development, especially when there are

⁹⁹ "CreditChina" is a website founded by National Development and Reform Commission (NDRC) and People's Bank of China to release news and information on credit of organizations and individuals www.creditchina.gov.cn.

emphasised directions for local authorities, government departments, and society to follow. For instance, the collaboration between local governments and social media platforms in establishing an embedded public-service platform was one important practice after the central government advocated for the use of social media. In this case, both local governments and private sectors are motivated by the policy encouragement from central leadership, which is a huge driving force in the context of Chinese politics.

The second interview question asked about who is mainly responsible for the G2C applications of e-government services. In response, the interviewees continued their explanation for question 1 that local governments are mainly the ones who exploit specific applications of G2C services. The interviewees listed several channels for providing e-government services, such as traditional government websites, mobile service apps, public Weibo accounts, and public WeChat accounts. When asked about any standards for these applications, the respondents answered that a broad aim is first designed by central leadership and mentioned in official documents, as shown in Table 4-6 and then lower-level governments draw up a more concrete index for each department to follow. Though general objectives do exist, local governments have enough autonomy to decide how to complete the e-services delivery according to their actual conditions. The aforementioned cases such as the one-stop portal of Zhejiang Province and the citizen cloud platform by the municipal government of Shanghai are two examples of how local authorities can produce their own delivery of e-government services. The decision-making power is valid not only for G2C but also for G2B implementation.

Since the respondents explained how central and local governments act and cooperate in the structure of e-government development, the third interview question was skipped as it became clear that after the general guidelines formulated by central leadership, society, including local authorities and private sectors, goes into action to establish e-service systems. The succinct principles leave much room for interpretation, leading to more innovative trials and practices.

The fourth question concerned whether any background, user-needs, or satisfaction surveys are conducted with citizens regarding e-government services. In response, the interviewees mentioned a research organisation called the China Internet Network Information Center (CNNIC), which publishes various surveys on China's internet

development. The CNNIC was established in 1997, and now belongs to the Office of the Central Leading Group for Cyberspace Affairs. This office was set up in 2014 under the direct leadership of President XI to address issues of cyber security and informatisation from the top of the CCP. The CNNIC has the following roles: '1. The organization in charge of national internet infrastructure; 2. The research center for technologies and cyber security of national basic resources; 3. The organization providing consultancy and surveys regarding internet development; 4. The platform for global cooperation and communication' (CNNIC 2017b).

One respondent mentioned a national survey regarding internet development in China that the CNNIC has updated biannually since 1997. This survey is a comprehensive investigation of every aspect of China's internet progress. The report is divided into two parts: internet infrastructure and individual use. One section highlights citizens' use of public services, including e-government services. Moreover, the report also covers citizens' user habits regarding online services, including commercial applications. This report is said to be a definitive tool for policy-makers, enterprises, academic sectors, and individuals to have deeper and accurate understanding of China's internet development.

According to this information, the author has consulted past reports by the CNNIC. In the latest, 39th research report, chapter 6 elaborates on 'public service applications development' by introducing ongoing online government services. For instance, e-government service users totalled 239 million in December 2016, which accounted for 32.7% of all entire internet users. Regarding the usage rate for each e-service application, the CNNIC report's results are presented in figure 4-10. The result reveals that e-government services embedded in commercial platforms have successfully attracted users, such as city-service platforms and government official accounts on WeChat. Though traditional e-government approaches as government websites and official apps still have certain usage rates, it is obvious that new e-government service applications have the potential to change the way governments connect with citizens, considering the fact that these massive usage rates were acquired in just three years after the launch of these applications.

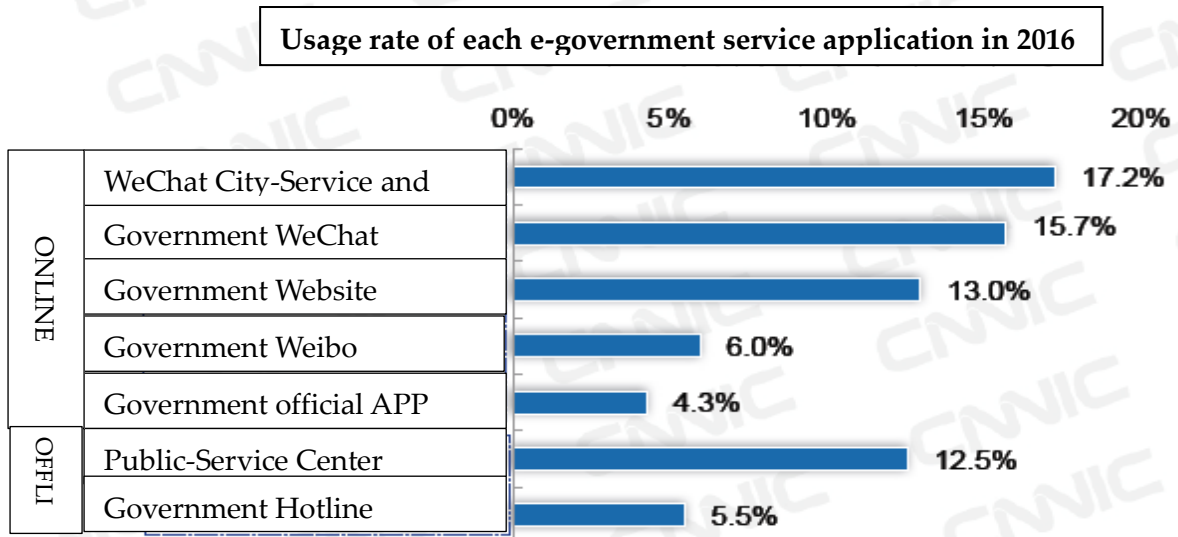


Figure 4-10. Translation of the ‘usage rate of each e-government service application in 2016’ from the CNNIC’s 39th Internet Development Report¹⁰⁰

The 39th report also investigates citizens’ satisfaction with online government services in 2016; the results are presented in figure 4-11 below. All in all, 48.5% of users felt satisfied with the online government services, while only 8.2% expressed their dissatisfaction. The report notes that to raise users’ satisfaction with e-government services and improve service quality, the collaboration between public and private sectors needs to be deepened with a growing awareness of public needs.

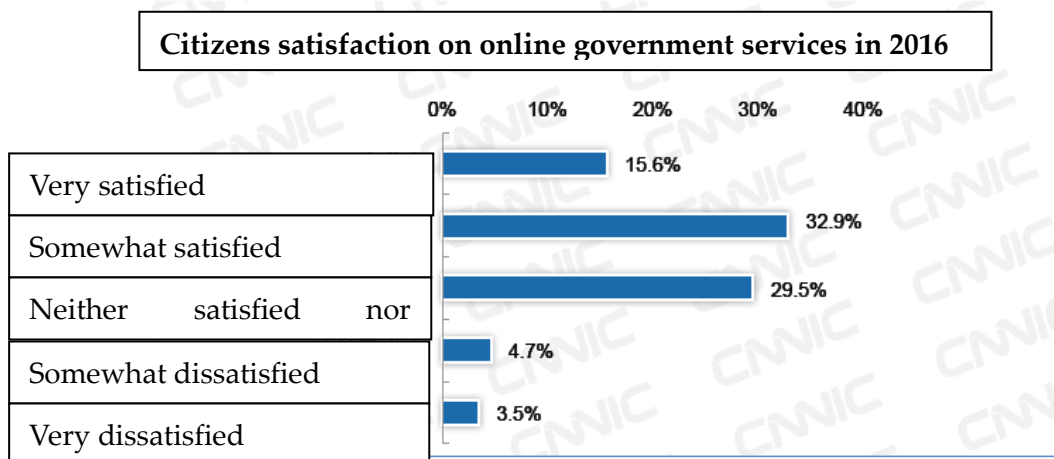


Figure 4-11. Translation of ‘citizens’ satisfaction with online government services in 2016’¹⁰¹

The report also presents detailed information about e-government services on WeChat

¹⁰⁰ Source: Reproduced based on CNNIC (2017a)

¹⁰¹ Source: Reproduced based on CNNIC (2017a)

and Weibo. However, after checking all the updates of this report, the present author found that this is not a routine section in the survey. Since e-government service has only received attention in the national development strategy for a few years, it is understandable that the survey of e-government service is new. When asked about whether any e-government surveys are conducted by government sections, the respondents indicated that most investigations regarding e-government services are processed by research institutions or academic organisations, although some of should be done by government departments. The author later found several studies regarding local e-government progress by CNNIC that were claimed to be commissioned by local government. However, the respondents admitted that background or user experience studies on e-government services are in the initial stage and lack a standardised approach, and differ in regions, like the gap in e-government service quality between different areas.

Regarding the government's priority and objectives in promoting e-government services, the respondents emphasised the two most important indicators as awareness and satisfaction. Satisfaction was particularly highlighted because of its intimate connection with 'service-oriented government', a political term first used by former Prime Minister Wen Jiabao in 2004 and later officially identified as one of the ruling policies in the 17th National Congress of the CCP. The service-oriented government is defined as 'an honest, effective, open and transparent government that encourages citizen participation, creating a favourable environment for sustainable development, providing high-quality public goods and services to society' (YU and Wu 2014). In terms of building a service-oriented government, satisfaction is regarded as the first and most important indicator to measure the service-level of the government, therefore becoming a highly valued index in the current Chinese political system. In the aforementioned National Informatization Development Strategy (2006-2020), 'promoting e-government services' was nominated to 'facilitate service-oriented government' by 'extending the scope of service as well as improving the quality' (govCN 2006). In this case, e-government service is not only a simple reform in public administration, but is also an aim of top leadership. During this process, citizens' satisfaction represents an observable measurement to estimate the level of the government's effort and its results. Though the respondents indicated that usage and intention to use are also important indicators in the promotion of e-government services, satisfaction is undoubtedly the top priority of the

Chinese government in its interaction with citizens.

In response to the question about the specific promotional activities aiming to meet those objectives, the interviewees confirmed that there are multiple ways for the government to conduct this promotion. When a new e-service is launched, the government adopts some promotional activities including advertisement on digital channels and in traditional media such as TV and radio. It is worth noting that hardly any of these promotional activities are conducted by the central government; instead, they are the job of local governments. Therefore, the respondents explained that they are in fact not familiar with the details of the government's promotion to citizens because the adopted activities are heavily dependent on the preference of every local authority. This is in line with the answers to previous questions that local governments have enormous autonomy in designing e-government services with regional features, which surely includes the way governments promote their e-services to citizens. It is necessary to consult with local officers about the progress of e-government promotion rather than appealing to theories or impressions in general, though there may be activities in common between different regions.

Finally, in response to the last question regarding the utilisation of SNS in e-government promotion, the respondents suggested that the author look into individual cases from different areas, including the aforementioned examples of Shanghai and Zhejiang Province. Regarding WeChat and Weibo in the public service delivery, the respondents explained that not only the local government but also every local department, no matter how tiny it is, can apply for the service platform provided by WeChat and Weibo. Whether local authorities choose to establish a one-stop portal or give the right to every government agency to build its own services is also a matter of preference. In fact, some local departments have achieved incredible success in attracting citizens to the SNS platform, while others have failed to communicate with citizens effectively due to their poor service delivery and publicity.

From the interviews with the officers from the CCID, a comparatively deeper understanding of e-government in China was achieved. This also contributed to determining the facts. Based on the discussions with these representatives of the central government, it was necessary to consult with local government about the implementation of e-government promotion, to provide solid evidence and a basis for further research into the structure and impacts of such activities.

4.2 Interviews with local government

To achieve a deeper knowledge of how local governments act in their daily operation of e-government services in China, the specific municipality of Chongqing was chosen as research subject in this study. The present author contacted the Department of Publicity of the Public Security Bureau of Chongqing to obtain permission to conduct the in-depth interview. There were two reasons for selecting the Publicity Division of Chongqing Public Security Bureau. First, the Public Security Bureau (PSB) is considered to be the most powerful local bureau and provides various services to citizens. A PSB in China is in charge of policing, public security, transportation, immigration, residence registration, and other local issues (Baidu 2017). Providing a wide range of public services to citizens enables the PSB to have a closer communication with citizens than other local public agencies do. Second, as neither a department specialised in ICT management alongside the local authority nor a CIO office exists, each government department needs to deal with e-government issues in its own way. The Publicity Division of Chongqing PSB is fully and specifically responsible for these promotional activities, in both offline and online systems. Thus, it is appropriate to examine the Publicity Department to observe the local e-government promotion.

The present author visited the Publicity Division of Chongqing PSB in August 2017. Two respondents including one head officer, participated in a face-to-face interview based on the pre-prepared question items. Table 4-8 presents the main questions and sub-enquiries followed during the interview.

The first question concerned the e-service applications in local government. The respondent identified the utilisation of the aforementioned commercial platforms (WeChat and Weibo) in e-government applications. However, there are still some government websites and mobile apps operated by the government despite their lower popularity among citizens. The respondents claimed that nowadays, the mainstream channels for local governments to reach citizens are WeChat and Weibo platforms, especially considering that with the very high usage rate of WeChat, it is much easier to reach the widest audience in a short time than with traditional e-government websites and mobile apps. Regarding the Weibo platform, local departments are enthusiastic about creating their own official accounts to publish

Question items of in-depth interviews with officer from Publicity Division of Chongqing Public Security Bureau
1. What kind of application/platform your department has offered in local e-government system?
2. Who are your target groups of the publicity on e-government services?
3. Is there any encouragement from policy and leadership on promoting e-channels?
4. Are there any other tasks besides promotion to citizens?
5. What are the objectives of government's promotional activities to citizens?
6. What kind of promotional activities government has adopted?
7. Is there any cooperation with other government departments?
8. Do your department have any communication and collaboration with commercial platforms?

Table 4-8. Interview questions to officer of PSB Chongqing, China¹⁰²

announcements and communicate with the public immediately. Furthermore, the local government acts flexibly to adopt the latest SNS applications such as real-time live broadcast to release instant messages (videos) to the public. For the operation of the WeChat official account, the respondents explained that there are secondary units responsible for collecting information and submitting it to their office. After filtering and processing all the submitted data, the publicity division releases e-information to citizens with a final decision on the content. The secondary units such as police posts do not have their own public accounts on SNS platforms yet, due to their insufficient capability of processing and releasing information. A similar situation applies to other local departments, where only the organisations above a certain level can afford to operate e-service delivery on SNS platforms.

Regarding the target groups of the promotion of e-government services, the respondents acknowledged that the aims of creating public accounts on SNS platforms differ depending on their audience. There are two kinds of promotion: to internal government employees and to the public. The respondents gave the example of the well-known public account called 'JiangNing GongAn ZaiXian'¹⁰³, which is the official account representing JiangNing PSB in Nanjing city. This account is famous for its humorous and interesting content regarding public security, as well as its lively interaction with the public. In August 2017, the account had 2

¹⁰² Source: Author

¹⁰³ Weibo Government Account "JiangNing GongAn ZaiXian"(江宁公安在线): https://www.weibo.com/njnga?is_hot=1

million followers and was in the top 10 in the Weibo Government Account Influence Ranking (Weibo 2017). Such official accounts fully undertake the e-service delivery towards citizens, including e-information and e-consultation, as well as additional promotion tasks regarding e-services. The other kind of public account serves as a window facing internal government employees. For example, the respondent mentioned the public account 'Chongqing TieJing' (Railway Police of Chongqing) on the WeChat platform, which is used to release important policy and official documents regarding Chongqing Railway Police Bureau to enhance internal communication and awareness. However, most of the public accounts on SNS platforms are designed for citizens, hence promotional activities via these platforms are mainly aimed at changing citizens' perception and behaviours.

Next, the research asked about any encouragement from policy and leadership to promote e-channels. The respondents acknowledged that the upper-rank leaders are positive in encouraging the publicity departments to adopt e-channels to create a greater awareness and participation from citizens, in turn leading to high satisfaction with the government's performance. During this part of the interview, the respondent mentioned the political slogan 'building service-oriented government', which was also emphasised by the CCID officer in the previous interview. The respondent explained that under the idea of building service-oriented government, even the PSB needs to transform the way it interacts with citizens to serve as a qualified public service provider despite its nature as a "violent instrument" in china. For example, when the PSB account publishes its regular police report, a follow-up reminder is added at the end of the report to provide related information and details on the security services that PSB offers regarding current crimes and dangers. The publicity division should conduct such promotional activities to raise citizens' awareness of the services available when they face danger. This is another example of how the Chinese government uses e-government as an effective tool to achieve its administrative reform, and more importantly, to achieve its political ambition of building a so-called service-oriented government—a government with which citizens are highly satisfied.

One of the essential tasks of government accounts on the Weibo platform is to release announcements and immediate messages to citizens. The respondent explained that in the past, the government relied on traditional media such as TV, newspapers, and radio to publish information and conduct promotion. Nowadays, however, the situation has changed due to

the arrival of the digital society. The government has started using its own e-channel to release information, conduct campaigns, and communicate with the public. The e-channel has enabled local government to access citizens in the quickest and most effective way. Furthermore, the respondent mentioned public opinion monitoring as another important function of the government service accounts on SNS platforms. Unlike the information interchange in the pre-digital era, when only a few channels including traditional media were active, nowadays everyone is able to publish information and garner social attention. The respondent claimed that most of the influential hot-spots in recent times have been exposed by the public, instead of professional media. Furthermore, the official account of Chongqing PSB on the Weibo platform receives a mass of enquiries, complaints, and suggestions from citizens every day. Though some citizens choose to send private messages, most of the information is public and visible. The PSB needs to pay attention to all these messages and deliver them to the dealing process immediately to avoid a PR crisis—when the message becomes hot news.

When asked for further details about the processing flow of this situation, the respondent illustrated the work-in-course of how the government reacts to citizens' enquiry. The whole process is elaborated in Figure 4-9. When a citizen wants to contact the PSB office on Weibo, he can: (1) use his own account to @ the official account of Chongqing PSB, (2) leave comment or repost one of the PSB account's posts, or (3) send a private message to the PSB account. Two government departments deal with the information: the operator of the PSB account and an individual department named the Cyber Security Division (CSD), which is affiliated with the PSB. Since the latter office only monitors the public posts, the operator of the PSB account is the only one that accesses all the information including private messages. When a message is received from a citizen, the operator of the PSB account informs the related PSB department to address the issue, and the CSD also has the right to contact the relevant office. After investigating and resolving the citizen's concern, it is the PSB account operator's duty to contact the citizen to provide details regarding the issue. In this case, the PSB account serves as the front-window dealing with citizens, with a high standard of accountability.

Another concern for the CSD is to ensure that Weibo posts do not become high-profile negative news that spreads on the internet. It is the office's duty to discover and report potential cases, and to keep in touch with the PSB and relevant offices. When asked about any

rigid standard for classifying incidents, the respondent answered that a flexible and reasonable judgement is needed depending on each case. For instance, if only 10 users repost the content

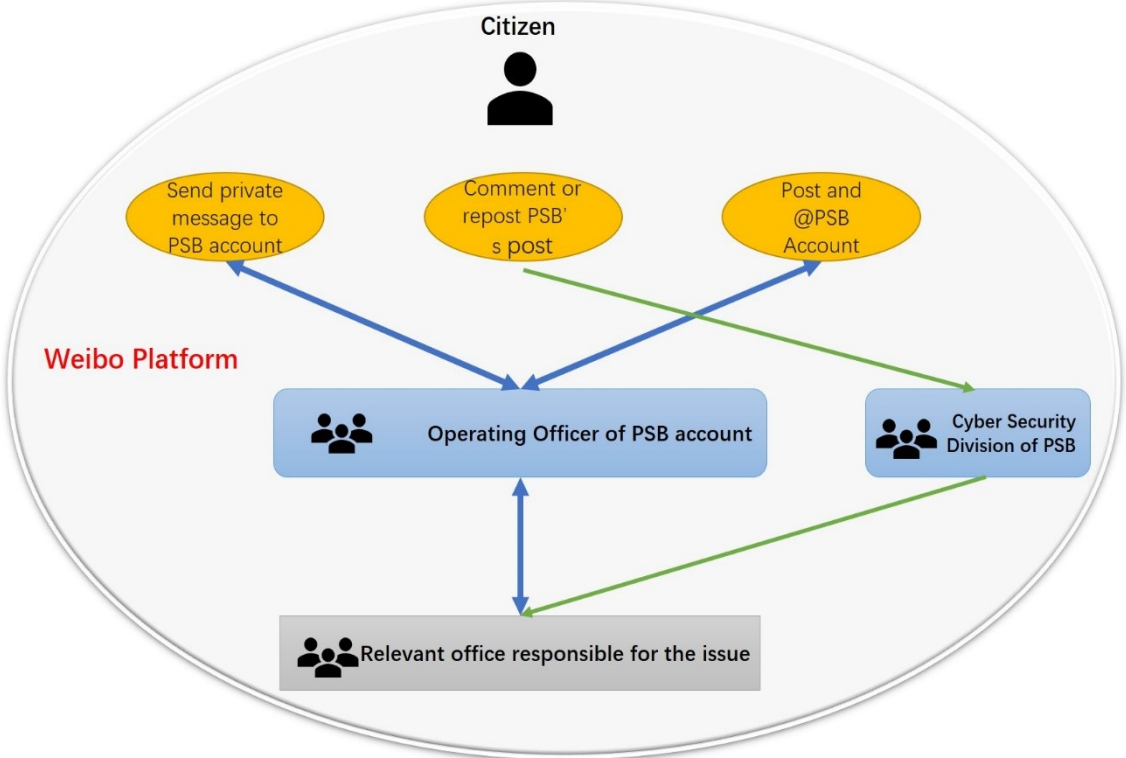


Figure 4-12. The process of government-individual interaction on Weibo Platform¹⁰⁴

but one of them has an influential account with millions of followers, the content will be diffused at a very rapid rate beyond imagination. In this vein, the respondent shared a real example of a case that occurred in 2015 and that became the focus of social news. In April 2015, a Weibo user posted that he had been detained by Chongqing Railway PSB because he had not offers his sleeper seat to a pregnant woman. The post was reposted by one of the 'Big V' accounts, which are popular Weibo microbloggers that have tremendous influence on millions of followers (Economist 2013). Just half a day later, the post had attracted tens of millions of views and discussions. One of the Chongqing PSB accounts called 'Chongqing Railway Police' (Chongqing Tiejing) was attacked by a mass of comments and private messages accusing the railway PSB of abusing its policing power and morally hijacking the victim. The negative influence expanded, owing to the media's secondary reports on the Weibo platform, spreading much faster than the government could respond. However, after a quick investigation and

¹⁰⁴ Source: Author

cooperation between local railway PSBs in different administrative areas, neither the self-assumed victim nor the incident was found, and the post turned out to be a fabrication. Even today, some posts on the topic still exist on the internet despite the PSB's efforts to dispel the rumour. The respondent said with a bitter smile, 'we called this "It only takes a mouth to start a rumour, but it takes a broken leg to refute it"', and it just happened in our daily work.' Since some of the 'Big Vs' lack the verifying procedure on their posts, and fake news may be rapidly propagated without confirmation. In this case, it is usually a very difficult task for the government to respond appropriately without a complete investigation.

Another risk of using government accounts on SNS platforms is that the operator staff may suffer the extreme pressure of communicating with citizens properly. 'When you speak using the face of the official account, everything you say will be examined by all the internet users using a strict standard,' the respondent said. She mentioned a typical case related to operating a government account. A well-known incident occurred on Weibo, related to a criminal case named 'the assaulted mother of Yuhuan'¹⁰⁵ The case was famous for the heated debate regarding public anger and legal punishment. During the public discussion on this incident, a government account called 'Jinan Police' representing the PSB of Jinan city was attacked by a mass of users because it published posts sharing a perspective that was against the majority of public. The posts remained in the top 10 popular Weibo searches for days, leading to irretrievable damage of Jinan PSB's reputation. Consequently, the operating staff was punished. This case warned all operating officers of government accounts on SNS platforms to remain vigilant at all times, and to self-examine every post, comment, and conversation with internet users. SNS have narrowed the distance between government and citizens, making it a double-edged sword for the administration and social management. 'It is a matter of balance,' the respondent said. Her department was in the training class taught by the operating officer of the aforementioned government account 'JiangNing GongAn ZaiXian', which is one of most popular official accounts of PSBs. The officer offered many techniques to balance the distance to citizens, including reporting news in both a clear and entertaining way, personifying the account in the interaction with citizens, and responding to the enquiries the first time with a serious and professional attitude, among others. According to the respondent,

¹⁰⁵ The criminal case of "The assaulted mother of Yuhuan": A young man named Yuhuan was jailed for life after killing a loan shark who had sexually assaulted his mother. Reuters (2017)

there are various training programs for the SNS account operating officers inside the government, covering all the knowledge they may need, from ICT skills to hospitality. In contrast to the past impression of the PSB as high-handed, it is a surprise to see these changes happening regarding the most solemn and unapproachable department of the Chinese government. These changes have shown the potential of the internet and emerging technologies in shaping social management, and have also shown that the strategy of public marketing is applied in Chinese politics, at least at a local level.

Regarding the objectives of the government's promotional activities to citizens, the respondent helped identify that the local government of Chongqing has three goals: awareness, satisfaction, and usage. The respondent claimed that the initial stage of promotion is increasing citizens' awareness of what e-services are available. The government considers that it is natural that the more citizens are aware of e-channels, the more usage will be achieved. E-services have the ability to shorten the distance between government and citizens with a convenient and amiable approach. It is expected that as long as citizens become closer to the government, the latter's image will change from a bureaucratic authority to a citizen-centric department. Thus, the citizens who experience this transformation with e-service delivery will be satisfied. In this case, citizens' satisfaction comes from both the quality of e-government services and a more favourable impression of the government. However, the respondents did not indicate intention to use as a concern. They regarded it as a natural effect of good e-government promotion rather than an obvious objective after the author explained the definition. 'I believe if we conduct a good campaign and continue to provide e-services in an effective way, the citizens will feel more willing to use the service', said by the respondents. From this point of view, citizens' intention to use is a potential objective of the government in conducting promotional activities and e-service delivery.

The present author also asked the respondents to help identify the types of promotional activities that are adopted by the local government of Chongqing. These included advertisement, publicity events, and personal persuading including the officers in the front-office and the online operating staff. They also said that in some areas, the secondary units such as police posts reach the community to ask for help. For instance, 'Xiaoqu' is the basic spatial unit of the new planning regime in the urban areas of China and is said to be have some resemblance to the 'danwei' residential compounds of the past (Bray 2006). However, the

management of xiaoqu has more flexibility and is more customer-based than the centralised style of danwei a few decades ago. The Chinese government has deployed a new mechanism of 'community' to face the challenges in governing the urban population. The community has a wide range of duties to support and administer the day-to-day life of urban residents. It is the role of the basic administrative unit in the local management system to reach the citizens directly. The respondent explained that local government departments cooperate with the community to conduct promotional activities on government services, including e-channels. For instance, the PSB unit may ask the community of a local area to distribute pamphlets and fliers, and put up posters introducing the PSB's new launched e-services. The community can organise various social events anchored in each small district related to educational and cultural subjects. This is a very efficient way to promote the government's e-channels and train the citizens at the same time in the innumerable public events held by the local community. Moreover, every community has its own teams of volunteers recruited from the residents – the people who have spare time to participate in local affairs. The community offers its manpower to help the local government reach citizens. For instance, a volunteer can visit residents' homes to teach aging people how to use digital devices to access the government. There are many benefits to cooperating with, or on some occasions ordering, the local community to replace the government to contact citizens: less cost is required to achieve the best result of promotion. Depending on the strength of the local community, the government can expand its influence into local residents.

Regarding cooperation with other government departments, the respondent affirmed the necessity of collaborating with diverse agencies to support e-service delivery. For instance, a certain number of PSBs are stationed in Chongqing and surrounding areas. If a citizen has an incident and seeks help on the internet, the operating staff should contact the relevant PSB units including the transportation unit, cyber security unit, etc. According to the respondent, the inter-connections including information-sharing are essential for e-service delivery. Though the online government account is just a simple window facing citizens, efforts to integrate G2G operations into the account serve as a foundation to provide a streamlined e-service. The Chongqing PSB respondent's opinion is in line with that of the previous interviewees in valuing interior cooperation among the e-service channels.

The last question concerned the detail of the current e-service model in China regarding

government service-providing on SNS platforms. When asked if Chongqing PSB has any communication and collaboration with the commercial platforms Weibo and WeChat, the respondents explained the procedure of embedding departmental services in SNS platforms as follows:

(1) For WeChat, virtually everyone has the right to apply for a public account, including government agencies. However, WeChat offers differed types of public accounts for government, private organisations, and individuals. A government account requires a series of tight validation steps by WeChat before it can be launched. Besides what WeChat offers, every public account can add extra e-service applications to the interface to extend its function. The respondents mentioned that their department outsourced the design of the PSB WeChat account to a third-party firm. The government benefited from the outsourcing by saving human resources and adopting a flexible service delivery inspired by the private sector. Nowadays, a great deal of companies sells internet services associated with SNS giants, which enables the public sector to reform its service provision exactly in cyberspace.

(2) For Weibo, which is a more open SNS platform than WeChat, sets strict controls on its users and posts. A government account needs to be officially verified by the Weibo sector with a blue 'V' mark. Compared to government accounts on WeChat which are armed with diverse e-services, a Weibo account serves a straightforward function: e-information and government-citizen interaction. The respondents considered that most of the time, local government departments do not have to deal with SNS companies regarding e-government services. However, internet censorship is thoroughly implemented in this leading internet nation, which is also a leading surveilled society (DeLuca, Brunner, and Sun 2016). The strict monitoring of every post and user on SNS platforms shown in a substantial number of cases undoubtedly reveals the intimate connection between the Chinese government and internet corporations. The collaboration between internet giants and the Chinese government is extremely close regarding cyber security and content censorship.

5. Findings from in-depth interviews

5.1 Findings from in-depth interviews with government officers in advanced e-

government areas

As references for mainland China, this study examined Taiwan, Macau SAR, and Hong Kong SAR, which are different administrative systems sharing a mutual Chinese cultural influence and diverse governing mechanisms. Through in-depth interviews with representatives from each government department in charge of e-government issues, several empirical findings were revealed regarding e-government promotion. These are summarised below. The findings help to verify essential elements of government's promotional activities in the e-government implementation, which match the marketing methods discussed in the literature.

5.1.1 The aims of a citizen-centric e-government promotion: citizens' behaviours towards e-services

In the empirical practice of the G2C type of e-government, the shift of the guiding ideology from government-centred to citizen-centric has shaped the way the government designs and delivers e-services to users. In the early stage of e-government, the provision of information and services was the main task that the government needed to fulfil. As the technological and ideological evolution brought changes to governance, however, there were increasing expectations for e-government: namely, to increase citizens' engagement in public affairs and politics, such as e-governance and e-democracy. The recent development of emerging ICT and mobile phone has hastened this process by offering citizens opportunities to interact with the government much more freely than in the past. Moreover, the government has proactively or passively learned to respect and value citizens' perceptions of e-government.

There is much evidence showing governments' citizen-centric efforts in implementing e-services. The first is the citizen background/satisfaction surveys conducted by the government in the practice of e-government promotion. In the marketing theory, marketing research is generally recognised as a fundamental phase to 'link the consumer, customer, and public to the marketer through information – information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing actions; monitor marketing performance; and improve understanding of marketing as a process' (AMA 2007). As the goal of marketing research is to identify and assess how changing elements of the marketing mix impact customer behaviour (McDonald and Wilson 2016), a well-prepared investigation helps the marketer understand and analyse the behavioural patterns of the

targets. Regarding the process of promoting e-government services, representatives from all three governments affirmed that background research on citizens' needs and perception of e-government services is conducted to be as close as possible to the users. Furthermore, another kind of research is also conducted with regard to citizens' user experience and satisfaction: namely, each studied government collects public opinions for evaluation and further improvement. For instance, respondents from the NDC in Taiwan discussed their survey on citizens' satisfaction with e-government services, which is conducted annually. User experience is the KPI that the government of Taiwan values the most; unpopular e-services require immediate improvement to avoid being abolished. In this way, the respondents claimed, citizens' usage and satisfaction may increase.

Based on the literature review and pilot survey, a number of citizens' behaviours towards e-government services have been identified as the potential objectives of government's promotional activities. During the in-depth interviews, those factors were examined by the government officers from different administrations with daily experience in promoting e-government services to citizens. As shown in Table 4-9, though they differed in their opinions on the priority of the aims, the respondents successfully identified the aforementioned citizens' behaviours towards e-government services. Among the goals, citizens' awareness of e-services was unquestionably acknowledged as the government's most basic and important objective. Next, as the e-service delivery would fail directly if citizens did not use it, the government officers recognised a certain amount or frequency of actual usage as the following target of their promotional activities. Satisfaction with e-services is a sophisticated issue because it can be easily linked to satisfaction with the government and the political situation. Therefore, all interviewees emphasised how they weigh citizens' satisfaction and endeavour to improve e-service delivery in response to feedback. Lastly, the respondents from Hong Kong and Macau did not recognise intention to use as direct aims of their promotional activities; in contrast, the other three respondents did. It can be speculated that the reason for this is that it is not as visible as other aims for the government to measure. It is a more academic factor than a realistic objective, and the government lacks guidance on how to work on it. In fact, during the interviews, when respondents mentioned their promotional activities, they naturally talked about increasing citizens' intention to use the e-services as one their wishes. Thus, it is a latent objective associated with citizens' actual usage on account of its inevitable influence on the

action.

Regions of respondents	Aims of e-government promotion
Taiwan	awareness>adoption>satisfaction>intention to use
Macau SAR	awareness>adoption=satisfaction>intention to use
Hong Kong SAR	awareness=satisfaction>adoption>intention to use

Table 4-9. Aims of e-government promotion identified by the respondents from Taiwan, Macau, and Hong Kong in the in-depth interviews¹⁰⁶

The acknowledgement of e-government promotion aims from government officers working in advanced regions helped to validate the present study's research orientation in linking government's promotional activities with citizens' behaviours towards e-services. Thus, it is possible to presume the influence of promotional activities on these behaviours.

5.1.2 Promotional activities implemented in practice based on marketing strategies

As shown in the literature, there is a blend of promotional variables in marketing strategy. Furthermore, the public and private sectors differ in their adoption of a promotional mix to achieve their own results. Therefore, the promotional activities in the e-government area require fact-checking before being analysed in the conceptual model. During the in-depth interviews, the respondents from Taiwan, Macau, and Hong Kong discussed many activities adopted to promote e-services to citizens. However, systematic guidance for these promotional activities is absent, resulting in difficulties in evaluating and measuring the outcome of the e-government promotion. All the information regarding promotional activities was collected in the interviews and classified into different categories referring to the promotional mix in marketing. Table 4-10 provides an overview of the promotional activities adopted and identified by the interviewed government officers. As some activities overlapped with each other, they were integrated into one category. For example, government's direct online advertisement to citizens was considered as a method in the section 'advertisement' as well as a channel of 'direct marketing'.

¹⁰⁶ Source: Author

Identified promotional activities	Taiwan	Macau SAR	Hong Kong SAR
Advertisement (Direct marketing)	√	√	√
Publicity	√	√	√
Usage promotion	√	√	√
Staff personal persuading	√	√	

Table 4-10. Main activities in e-government promotion identified by the respondents from Taiwan, Macau, and Hong Kong in the in-depth interviews¹⁰⁷

‘Image campaign’ and ‘mandatory use’ were two methods identified by the experts from various countries in the pilot study. However, the interviewed government officers did not mention these two methods as being part of their daily operation. The respondents from Taiwan and Macau especially emphasised that mandatory usage would never be implemented in their regions, as citizens always have the right to adopt either electronic or traditional channels to interact with the government. This consideration reflects the feature of the citizen-centric perspective: citizens’ needs and will are given the highest priority in the delivery of e-government services.

To establish a systematic framework of e-government promotion, detailed activities pertaining to four categories are generalised in table 4-11 below. As shown in table 4-11, advertisement is the most widely employed method in the promotional mix. Governments have combined both online and offline channels in promoting e-government services to different groups of citizens. Traditional media such as newspapers and television are not neglected because of their influence on middle-aged and elderly citizens. Outdoor advertisement has its own effect of expanding the presence of e-government services as well, with advantages in space. Publicity is used to deepen citizens’ impression and understanding of e-government with a comprehensive display of the services provided. For instance, citizens may not know what the e-service is via a short advertisement, but they may understand its function and usage after

¹⁰⁷ Source: Author

Identified promotional activities	Taiwan	Macau SAR	Hong Kong SAR
Advertisement (Direct marketing)			
Outdoor advertisement	√	√	√
Broadcasting/Television media advertising	√	√	√
Print media advertising	√	√	√
Online advertisement	√	√	√
Publicity			
Public exhibition	√	√	√
Community event	√	√	
Public seminar/workshop or training session	√	√	√
Public speech	√		
Usage promotion			
Award/Coupon	√	√	√
Cost down	√		√
Contests	√	√	
Staff personal persuading			
Front office	√	√	
Online contact	√	√	
local community (including service to door)	√	√	
Public event	√	√	

Table 4-11. Sub-activities in e-government promotion identified by the respondents from Taiwan, Macau, and Hong Kong in the in-depth interviews¹⁰⁸

participating in a public seminar or event that provides details about it. Thus, the method of publicity can help to enhance citizens' awareness and understanding of e-government services by providing more in-depth information. The third method of usage promotion originates from sales promotion in marketing strategy, aiming to stimulate citizens' demand for e-government services. In the case of the Taiwanese government, citizens who choose the online e-tax system to declare their taxes enjoy priority service; moreover, citizens who adopt the use of electronic invoices are entered into a lottery. This method imbued with marketing colour motivates citizens to use e-government services in a direct way. Finally, staff personal persuading, which stems from personal selling, is also employed in e-government promotion.

¹⁰⁸ Source: Author

Government staff members and volunteers can persuade citizens to use e-services with face-to-face conversation. This method is considered to be particularly suitable for approaching certain groups of citizens who suffer from the digital gap, such as ageing and disabled citizens. A good example of this method can be seen in Taiwan, where volunteers are sent to citizens' homes to teach them IT skills and how to use e-services.

5.1.3 The necessity of promotional activities in advanced e-government areas

As was discussed in the literature review, a variety of previous studies have claimed a positive relationship between education level and e-government service adoption, and between IT literacy and e-government service adoption (Taipale 2013; Chatfield and Alhujran 2009; Zhao, Collier, and Deng 2014). A region with comparatively well-prepared ICT infrastructure and a high literacy of population is believed to have more citizens adopting e-government services. In the UN e-government survey, the Telecom Infrastructure Index (TII) and Human Capital Index (HCI) are regarded as two important components of the three main indicators in assessing a nation's development of e-government. A government in an area such as the one described above is supposed to face less pressure to promote e-government services, as citizens should proactively seek e-channels themselves to find the government. Citizens in a developed digital society are accustomed to using digital devices and the internet in their daily life; therefore, they face fewer barriers to adopting e-platforms, which could help the government save costs on cultivating IT literacy and stimulating citizens' demands. This assumption is precisely able to be verified in the context of interviewed regions as Taiwan, Macau and Hong Kong as they are all recognized as comparatively developed regions in ICT and human capital development by global rankings.

The respondents from Taiwan emphasised their basic role of creating a user-friendly environment for citizens – that is, preparing the fastest, simplest service platform whenever citizens need it the first time. For instance, efforts have been made to ensure citizens can reach the service they want via search engines. More and more users are adopting mobile devices to access the internet; hence, the design of e-service platforms should be improved to correspond to the changes in user habits. An effect that the Taiwanese government expects, precisely in a society with advanced information networks, is that a successful delivery of e-service can lead to word of mouth, in turn resulting in an increase in the number of active users and their

satisfaction. Regarding the effort of promotion, the respondents believed that the government must still remind or inform citizens about available e-services proactively, instead of waiting for the alternative situation. In fact, the government officers from Taiwan identified a variety of promotional activities to reach citizens.

In the case of Macau SAR, an ICT-advanced area with the highest mobile penetration in the world, the government officers confirmed that citizens there are familiar with digital devices and accessing the internet. Though the government of Macau has not been lax in its promotional efforts, for instance conducting training courses, public exhibitions, and recruiting staff for personal-persuading tasks, citizens' proactivity in adopting e-government service does help. In particular, the respondents mentioned that many young people seek the e-services on their own without extra information from the government. Furthermore, these officers also mentioned the effect of 'word of mouth', stating that more adoption and satisfaction can be expected if the government offers high-quality e-services.

As an outstanding digital city, Hong Kong is expected to benefit from its natural ICT-friendly environment to promote any e-government projects. Nevertheless, the respondents from Hong Kong considered that promotion remains a necessity to bring the available services to a wider audience. For instance, they referred to the utilisation of social media such as YouTube and Twitter to reach out to a particular group of people who are used to this kind of communication channels. The interviewees further emphasised that when new services launch or there is a major revamp of existing e-services, a promotion campaign has a great impact on attracting citizens to increase their awareness and adoption.

All in all, although e-government promotion benefits from being in an ICT-advanced region with a high level of human capital development, it is still a requisite tool for the government to reach a wide range of citizens. Given that all groups have their own habits and concerns for interacting with the government, distinctive methods should be prepared to meet their needs. For instance, a younger generation may be easily affected by advertisement on SNS platforms, while senior citizens may feel that it is more acceptable if real staff can explain the newly launched e-service to them face-to-face. Moreover, it is important to conduct campaigns and publicity for the digital society: firstly, citizens need official guidance on the e-government service by the government, as there is a potential danger of information loss; second, as emphasised by the respondents from the governments of Taiwan and Macau, word-

of-mouth can be expected due to the rapid propagation of information in the digital era. From this point of view, promotion is a course for governments to send necessary messages to citizens to seize the initiative on the dissemination of information. The role of promotion is not only essential in e-government development, but also important for any government-individual communication in public administration.

5.1.4 The utilisation of SNS in e-government promotion

Since a series of phenomena such as the popularity of SNS and smart phones have altered the way of social communication, e-government has inevitably been influenced by this change as well. As discussed in the literature review, SNS have entered the field of government as tools to improve public service and engagement (Oliveira and Welch 2013). The theory of digital-era governance (DEG) also emphasises the pressure on governments from the rapid growth of social media in today's commercial, social, and cultural life in the digital era, which could potentially facilitate the second wave of DEG to provide holistic services to citizens (Dunleavy et al. 2006; Margetts and Dunleavy 2013). In the meantime, there are positive examples of how governments can use SNS to better approach citizens, and to more effectively promote e-government. During the in-depth interviews, all the respondents were asked about their experience with exploiting SNS in the operation of e-government promotion.

The respondents from Taiwan recommended an e-service called the 'Public Policy E-Participation Platform' which enables citizens to take part in the political course. The success of the platform is due to its dependency on SNS. The 'i-Voting' petition system allows the initiator to share the petition to SNS platforms to gain attention. If more than 3,000 people sign the petition, it can be formally registered and delivered to the administrative sectors responsible for the administration. A much wider space for public discussion can be created when the petition becomes available for SNS sharing and commenting. More importantly, a sharing-post of this e-platform on SNS may attract attention from other citizens. A similar effect as with advertisement can be achieved to raise public awareness and change the attitudes of potential users. Thus, SNS platforms contribute to both a smooth delivery of e-services and efficient promotional activity.

Furthermore, the respondents from the government of Macau also confirmed the utilisation of SNS and social media such as YouTube, Twitter, Facebook, and WeChat in e-

government promotion. They said that a policy-orientation guided government sectors to adopt WeChat as a preferred channel to publicise public information, news, and actions to citizens. As introduced in the literature review, local governments in mainland China have made an innovative move to implant public services into the SNS platforms WeChat and Weibo. However, the Macau officers explained that there are strict restrictions on their e-payment system, so that all public e-transactions should be conducted via the official platform authenticated by the government. They also indicated that though the rapid growth of WeChat usage has started to change the way of public-private communication; the WeChat application should be adopted as no more than a communication tool in Macau, instead of as a 'super-app' as it is now used in the mainland. The government's official account on the WeChat platform merely serves as a promotional instrument.

Finally, and surprisingly, the respondents from Hong Kong claimed that they do not rely on SNS to promote their e-government website. Though they did not explain this further, it can be inferred from their previous answers regarding e-service delivery that the Hong Kong government has focused on its one-stop portal (GovHK) to provide citizens with an 'all-in-one' experience so that no other complicated procedures are needed. Therefore, citizens only have to remember and be aware of one simple website regardless of the type of service they need or when they need it. In this case, it is reasonable that the government does not need to rely on SNS to conduct publicity campaigns.

All in all, despite the fact that SNS have become an irreplaceable component in the communication course of our digital age, governmental sectors have their own concerns on leveraging these networks. Some governments are optimistic about adopting SNS as a powerful means to achieve their goals, such as more interactivity with citizens and encouraging more e-participation in public affairs, among others. On the other hand, other governments are cautious about the use of SNS in the public sector, in terms of privacy protection and authoritative confidentiality. It is not a zero-sum game, as both perspectives consider the sake of citizens, which is the base of citizen-centric administration.

5.2 Findings from the in-depth interviews with central and local officers of mainland China

5.2.1 Responsibility of the central and local governments in e-government implementation

As was discussed in detail in the literature review, China is evaluated as a highly decentralised nation, ranking as 21st in the World Bank's global ranking (Ivanyna and Shah 2012). In addition, the three levels of central, provincial, and municipal e-governments have their own focuses of service delivery. The vast majority of G2C in e-government is considered to be implemented on the local rather than the national level. To ensure a precise observation of Chinese e-government service, both central and local government officers were interviewed to build a comprehensive understanding of the mechanism.

The respondents came from the China Center for Information Industry Development (CCID), an official think-tank under the direct supervision of the Ministry of Industry and Information Technology (MIIT) of PRC helped to justify the duty of central authority in e-government implementation. In line with the literature, the respondents mentioned that the central government took the responsibility of financially investing in the initial phase of e-government to build a national ICT infrastructure. Massive fiscal investment by the central government established the basic telecommunication infrastructure, which laid a good foundation for further e-government projects. However, the respondents admitted that nowadays, local governments (provincial and municipal) are becoming the main investors in e-government projects instead of the central government. Especially considering the regional disparities in economic and social aspects in China, the development of e-government services has become increasingly reliant on local development plans that differ per region. In such a context, the central government now plays the role of general planner, leading the overall direction of e-government development by formulating national ICT strategy, in which e-government services continue to be arranged in one of the key projects. Single strategies or regulations regarding e-government are published as well, under which local administrations can exploit more flexible modes to reach their standards.

Regarding the G2C implementation of e-government, the respondents answered that local governments are the main enablers of specific applications of G2C services. They listed several channels for providing e-government services, such as traditional government websites, mobile service apps, and public Weibo and WeChat accounts. As previously mentioned, a broad aim is designed by central leadership, while local governments can draw up a more concrete index for each department to follow. Though general objectives do exist, local

governments have enough autonomy to decide how to complete the e-services delivery according to their actual conditions.

With the confirmation by the central government officers, it can be concluded that G2C application in China is mainly implemented by local administrations. Therefore, it is reasonable for the present study to examine local e-government promotion as the main force to facilitate G2C.

5.2.2 The aims and categories of local e-government promotion

As a case study for deeper analysis, a local governmental sector, an interviewee was chosen from the Department of Publicity in the PSB of Chongqing. As the two key research questions concern the aims and categories of e-government promotion, it was vital to obtain a local officer's verification on the former results regarding e-government promotion. The respondents helped to identify that the hypothesised goals of this promotion – awareness, satisfaction, and adoption – were in line with those of the local government of Chongqing. The respondents claimed that the initial stage of promotion is raising citizens' awareness of the e-services that are available. However, the respondents did not initially see intention to use the services as a clear aim of promotion. They argued that citizens' intention was a natural effect of good e-government promotion.

Another key question concerned the type of promotional activities adopted by the local government of Chongqing. The respondent acknowledged the use of most activities, such as advertisement, publicity events, and personal persuading including officers in the front-office and online operating staff. They also said that in some areas, the secondary units such as police posts can reach the community to ask for help. However, the management of xiaoqu has more flexibility and is more customer-based than the centralised style of danwei a few decades ago. As the new mechanism of community to face the challenges in governing the urban population, xiaoqu has a wide range of duties to support and administer the day-to-day life of urban residents. The respondent explained that the local government department cooperates with the xiaoqu community to promote government services including e-channels. A series of activities are organised by the community, such as local events, exhibitions, and training programmes. In terms of personal persuading, the community has its own teams of volunteers who are recruited from the residents—people who have spare time to participate in local

affairs. The community offers its manpower to help local government reach citizens: for instance, volunteers visit residents' homes to teach aging people how to use a digital device to access the government. There are many benefits of cooperating with, or sometimes ordering, the local community to replace government in contacting citizens: it costs less to achieve the best result of promotion. Depending on the strength of the local community, the government can expand its influence into local residents.

5.2.3 The significance of WeChat Government and Weibo Government in local e-service delivery

Though there are still some government websites and mobile apps serving as part of local e-government services, the respondent claimed that nowadays, the mainstream channels for local governments to reach citizens are the WeChat and Weibo platforms. Especially considering the very high usage rate of WeChat, it is much easier to reach the widest audience in a short time using this platform than traditional e-government websites and mobile apps. Local government departments are also enthusiastic about creating their own official accounts to publish announcements and communicate with the public immediately. As SNS providers are never tired of updating their services to the latest fashion, local governments can act flexibly to adopt the newest and most popular SNS applications, such as real-time live broadcasts to release instant messages (video) to the public. In addition, e-government services imbedded in those commercial platforms can meet citizens' various demands with a service delivery that uses SNS features. For instance, one of the essential tasks of government accounts on the Weibo platform is to release announcements and immediate messages to citizens. These channels, owned by the government departments themselves, can be used to release information, conduct promotion, and interact with the public. Furthermore, WeChat Government is another channel through which more types of transactional services can be delivered due to the privacy of personal data and sophisticated interface, as discussed in the literature. Table 4-12 presents the existing local e-government applications and the service types that they provide to the citizens of Chongqing. As shown in Table 4-12, the government portal website continues to deliver e-services with the richest functions because of its capacity. However, WeChat and Weibo Government have caught up due to their convenience and ease of use, benefitting from the powerful alliance of SNS platforms. It is understandable that

official apps created by the government itself seem unable to outperform those SNS platforms, as the government could never invest more in an app than private companies. Moreover, the

Service type	e-information	e-transaction	e-consultation	e-decision-making
Local e-government application				
Government Portal Website	√	√	√	√
Government official APPs	√	√		
WeChat Government	√	√	√	
Weibo Government	√		√	√

Table 4-12. Local e-government applications and their service types in Chongqing¹⁰⁹ government is also less professional in its service delivery and marketing strategy. Hence, WeChat and Weibo Government are a bold attempt by the Chinese government to reform its public service delivery in the present age of digitalisation.

In terms of e-government promotion, WeChat and Weibo have also influenced and attracted citizens to approach local e-services. For instance, WeChat and Weibo Government have undertaken the task of usage promotion by offering benefits such as reduced costs and rewards. The case of the official WeChat account ‘Chongqing Police Exit-Entry Administration’¹¹⁰, owned by Chongqing PSB, can explain how citizens can be motivated to adopt the WeChat Government service. A citizen who chooses to make a reservation on this account to apply for a passport or visa for Hong Kong, Macau, or Taiwan can obtain the document in five days, compared to 10 days with the normal method. By applying via WeChat, individuals can also receive real-time information on the progress and result, and the e-payment system on WeChat also enables them to finish the transaction smoothly. The respondent explained that WeChat and Weibo Government are helping both government and citizens in the interaction process with unprecedentedly effective and efficient service delivery. At the same time, the high usage rate of these SNS platforms has saved costs in promoting e-services.

Due to their wealth of experience in managing various accounts, WeChat and Weibo have

¹⁰⁹ Source: Author

¹¹⁰ The original Chinese name of the account is “重庆公安出入境”.

endeavoured to render well-designed interfaces that everyone can operate without intricate skills. As the respondent stated, most of the time local government departments do not have to deal with SNS companies regarding e-government services. Besides what WeChat and Weibo offer, every public account can add extra e-service applications to the interface to extend its function. The respondents mentioned that their department outsourced the design of the PSB WeChat account to a third-party firm. The government benefited from this outsourcing, for instance by saving human resources and adopting a flexible service delivery inspired by the private sector. Many companies are selling internet services associated with SNS giants nowadays in China, which enables the public sector to reform its service provision in e-government.

Chapter 5 Defining an E-Government Promotion Model and Assessing e-Government Promotion's Impacts on Citizens' Behaviours

1. Introduction

Quantitative research methods were used to confirm the proposed e-government promotion model, in which research hypotheses are imbedded. First, this chapter introduces the conceptual framework and research hypotheses, followed by hypothetical models. Then, it introduces quota sampling of non-probability means adopted in the collection of data. The number of samples and data division are determined by the principle of N-to-p ratio. Afterwards, the chapter presents a descriptive analysis of the relationship between demographic factors and local e-government service adoption. As the main analyses, exploratory factor analysis (EFA) and partial least square-structural equation modelling (PLS-SEM) were applied. EFA helped to discover the underlying structure of e-government promotion and to reduce invalid indicators; then, PLS-SEM was adopted to verify the proposed e-government model, including the measurement scale of promotional activities and the structure model describing the impacts of promotion on citizens' behaviours towards e-services.

2. Conceptual framework and hypothesis

Based on the literature review in Chapter 2 and results of the in-depth interviews in Chapter 4, a conceptual model (Figure 5-1) is proposed to facilitate a better understanding of e-government promotion and its impacts on citizens' behaviours. This framework is composed of two models: a measurement model (see figure 5-2) of e-government promotion, and a structure model of the impacts of e-government promotion on citizens' behaviours (see figure 5-3). The measurement model defines e-government promotion with a set of four sub-categories: publicity, government advertisement, usage promotion by SNS, and staff

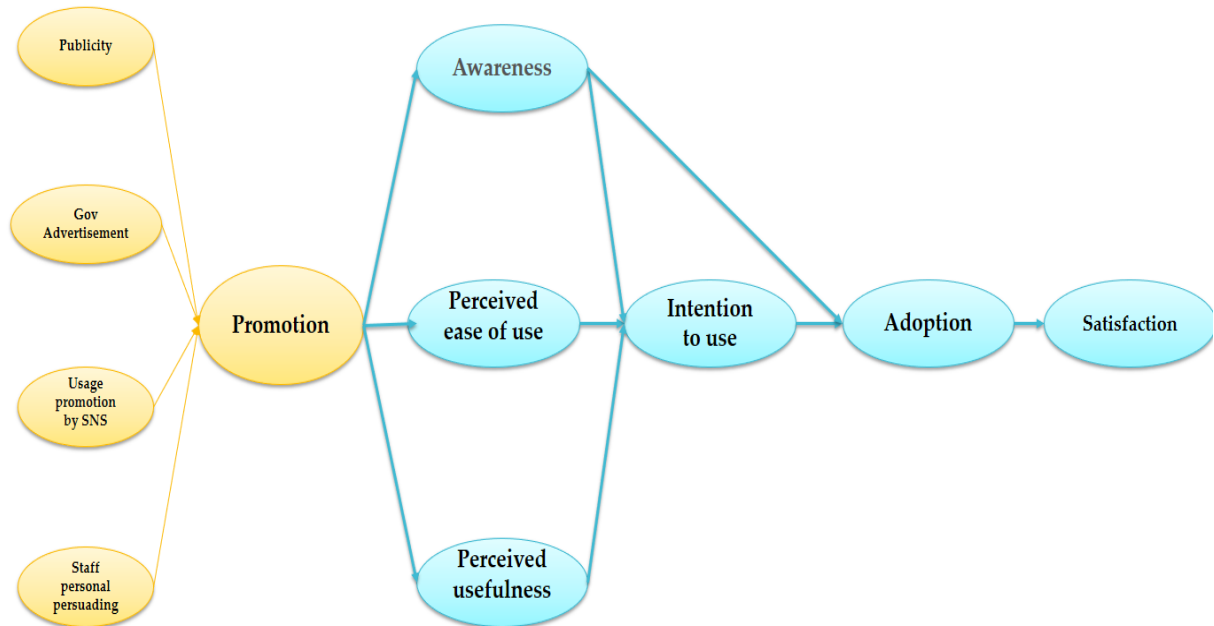


Figure 5-1. Conceptual model of this dissertation¹¹¹

personal persuading. Further, the structure model includes four factors representing citizens' behaviours toward e-government services: awareness, intention to use, adoption, and satisfaction. In addition, as suggested by the literature, two factors related to intention to use as "perceived ease of use" and "perceived usefulness" are added.

The proposed framework contributes to the previous e-government research from three aspects. First, it combines marketing theory and e-government to explore a common but less-studied phenomenon: governments' promotional strategy regarding G2C e-service. As public marketing methods have been used to achieve governments' goals such as efficiency, effectiveness, and communication with the public, an investigation into the systematic structure of promotion would provide a more accurate and meaningful picture of how governments can pursue their strategy to influence citizens' perceptions and behaviours. Drawing from the theoretical framework of the promotional mix, the measurement model of e-government promotion builds a reference for promotional activities. Second, this research fills a gap in the previous literature, as few studies have explored the impacts of governments'

¹¹¹ Source: Author

efforts to promote e-government services on citizens, especially when governments long for more public participation in the system. One weakness of the existing e-government literature on citizen's behaviour is that it only analyses the effects of psychological factors, without exploring how external activities may lead to these cognitive variables. Since citizens' awareness, intention to use, adoption, and satisfaction have been valued in both e-government research and its practical implementation, they can be used in the analysis as the explained variables for e-government promotion as well. Third, this study examines WeChat Government and Weibo Government in China as special cases of public-private collaboration in e-service delivery. These cases not only represent the utilisation of SNS in the e-government area, but also reveal the latest development of m-government.

2.1 Conceptual framework

As explained in the previous section, this structure model is used to test the impacts of e-government promotion on citizens' behaviours towards e-services. Based on the literature review and a qualitative verification by e-government officers, four latent factors describing citizens' behaviours were chosen as the dependent variables: awareness (AWS), intention to use (ITU), adoption (ADP), and satisfaction (SAT). As suggested in previous literature, two cognitive factors that may directly affect intention to use were added in the analysis: perceived usefulness (PU) and perceived ease of use (PEOU).

2.1.1 Awareness

Citizens' awareness refers to the extent to which citizens know about the introduction of an e-government technology (Charbaji and Mikdashi 2003). Awareness of e-services is considered as one of the basic objectives of e-service adoption, simply because citizens cannot use it if they have no knowledge of its existence. Many studies have emphasised the importance of awareness as the fundament of e-government success, and its influential connection to citizens' further attitude (Gunter and Mellor 2006) (Ward, Connolly, and Hackney 2011; Chan et al. 2011; Saatçioğlu, Deveci, and Güldem Cerit 2009; Sia et al. 2001). Awareness has also been observed to be the target of some countries' promotional strategies, such as the UK government's 5-million-pound campaign of radio and press advertisements to spread citizens' awareness of its e-government website (Cross 2006), Singapore's publicity

activities and advertisements to boost the public's awareness of government e-services (Chan, Lau, and Pan 2008), and other nations' promotional activities, as introduced in table 2-13. Raising awareness has been identified as the most fundamental objective when governments plan to introduce an e-government service to citizens.

Awareness has also frequently been demonstrated to be able to affect other behaviours of citizens towards e-services. It first exercises its influence directly on citizens' willingness to use the e-channel to interact with the government. Several studies have argued that lack of awareness of the range of possibilities offered by the internet and e-government services is one of the reasons why individuals are not motivated or interested in learning how to use the internet (Aerschot and Rodousakis 2008; Sipior, Ward, and Connolly 2011). The positive relationship between awareness and intention to use has also been justified by previous studies with empirical evidence (Charbaji and Mikdashi 2003; Sipior, Ward, and Connolly 2011). Furthermore, another behaviour that has been observed to be related to awareness is adoption: many studies have found evidence that awareness has a positive influence on the adoption of e-government (Shareef et al. 2011; Rehman, Esichaikul, and Kamal 2012). Given that awareness serves as the first and foundational reaction of citizens towards e-government services, and given that it has multiple effects on further behaviours, the path of awareness is designed in the structure model as shown in figure 5-3.

2.1.2 Intention to use

Intention to use is one of the most regularly studied factors in e-government research, originally appearing in several technology acceptance models. The theory of reasoned action (TRA) regards it as 'behavioural intention', affected by an individual's attitude and subjective norms (Fishbein and Ajzen 1977). Furthermore, the theory of planned behaviour (TPB) added 'perceived behavioural control' to the TRA as one more determinant of intention. As a renowned theory, the technology acceptance model (TAM) pays attention to behavioural intention to use, which is decided by attitude, under the effects of perceived usefulness and perceived ease of use (Davis 1989). An integrated model combining the TAM and TPB suggests that behavioural intention is determined by both perception-related factors and subjective norms (Taylor and Todd 1995). Finally, the unified theory of acceptance and use of technology (UTAUT) is the latest theory that integrates user and innovation acceptance. In this model,

behavioural intention is dependent on four factors: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al. 2003). Moreover, previous e-government studies mentioned in the last section also emphasise the positive impact of awareness on intention to use. On the other hand, behaviour intention is generally acknowledged by the aforementioned technology acceptance models as the determinant of actual adoption. Based on its linkage with promotional activities and citizens' other behaviours towards e-government service, intention to use is hypothesised here as a determinant of adoption and influenced by promotion via PU and PEOU, as shown in figure 5-3.

2.1.3 Perceived usefulness and perceived ease of use

PU and PEOU are two essential determinants of attitude towards new technology in the TAM. PU is defined as the degree to which a person believes that using a particular system will enhance his or her job performance, and PEOU is the degree to which a person believes that using a particular system will be free of effort (Weerakkody et al. 2013). Numerous studies have examined these two factors with regard to their structure, influence, and interactive connections with individuals' actions, ranging from technology acceptance to customer adoption in marketing (Adams, Nelson, and Todd 1992; Segars and Grover 1993; Venkatesh 2000; Jahangir and Begum 2008). For instance, Segars and Grover (1993) conducted a confirmatory factor analysis to test the solidity of the structure of PEOU and PU, that effectiveness was generated besides the aforementioned two factors, because of its contribution to the underlying pattern of correlations (Segars and Grover 1993). Furthermore, Venkatesh (2000) proposed control, intrinsic motivation, and emotion as the determinants of an individual's early perception about the ease of use of a new system (Venkatesh and Davis 2000). No matter how they are used in scholarly and interdepartmental research, PU and PEOU are widely acknowledged and justified to be the vital affecting factors of an individual's intention to use and actually adopt the internet and emerging technology. Corresponding to the importance of these two factors as discussed in the previous literature, the present study hypothesises that PU and PEOU are explanatory factors in citizens' intention to use local e-government services, and that these factors are affected by promotion.

2.1.4 Adoption

Similar to intention to use, an individual's adoption of new technology is included in the aforementioned technology acceptance models. It is regarded as the final stage, and the ultimate action when individual encounters a new technology system. All the external movements and their influence on preliminary cognitive factors lead to this step: the individual adopts the new technology. In other word, adoption is the final goal in every theory regarding technology management research. In the context of e-government services, citizens' adoption is not only a goal when designing electronic channels, but also matters for civic participation in public management and politics. Therefore, governments aim for more engagement of citizens in e-government systems. Both intention to use and the adoption decision have been commonly recognised in the e-government literature (Dwivedi et al. 2011).

Adoption is also identified as a variable that is explained by citizens' other behaviours towards e-government service. As introduced in 2.4.2.1 in chapter 2, many studies have provided evidence that awareness has a positive influence on the adoption of e-government (Shareef et al. 2011; Rehman, Esichaikul, and Kamal 2012). Moreover, intention to use is indeed valued because of its significant impact on actual adoption in technology acceptance models. Adoption is important because it serves as both one of the citizens' targeted behaviours and the ultimate aim connected with other behavioural factors.

In terms of e-government promotion, there is no doubt that the governments want citizens to adopt e-services, as the system is fundamentally designed to allow participation from users. It is such a foundational claim that every government tries various methods to encourage citizens to try the service. For instance, the Singapore and Dubai governments have used advertisements and publicity to stimulate citizens' demands (Chan, Lau, and Pan 2008; Sethi and Sethi 2008). Thus, based on the discussion above, this study recognises citizens' adoption as a dependent variable that is influenced by awareness and intention to use.

2.1.5 Satisfaction

User satisfaction is another factor used to assess the continual usage of e-government services and the success or failure of e-government projects (Alawneh, Al-Refai, and Batiha 2013). The UN's e-government survey stated that e-government initiatives should guarantee that citizens are satisfied with the governing process (UN 2005). As one of citizens' behaviours

towards e-government service, satisfaction is adequately identified to be positioned at the stage after citizen's adoption of e-government, and it is considered to be related to adoption too.

In the logic of citizen-centric governance, citizens' satisfaction is valued in the central position. Citizen-centred e-government requires more attention to citizens' satisfaction, as the technology acceptance and behavioural action models have been criticised for failing to predict citizens' behaviours after adoption (Zhang 2013a). To create a citizen-centred e-government, providers must meet user expectations, and citizens' behavioural feedback after adoption should be considered (Jaeger and Bertot 2010).

A significant number of studies have highlighted the debate regarding the relationship between satisfaction and other citizens' behaviours. One of the viewpoints put forward is that an increase in usage of e-government services leads to increased satisfaction. Moreover, some scholars have theorised that satisfaction affects not only adoption but citizen trust and confidence in the government in various nations (Welch, Hinnant, and Moon 2004; Morgeson III, VanAmburg, and Mithas 2010). However, in another perspective, satisfaction is also considered to impact citizens' adoption rates inversely. Many studies have provided empirical evidence that a higher degree of satisfaction will increase the rate of e-government adoption with empirical evidences (Stiftung 2002; Kumar et al. 2007; Colesca and Dobrica 2008; Verdegem and Verleye 2009). In this study, satisfaction is hypothesised to be an explanatory variable under the influence of adoption.

2.2 Research hypotheses and proposed model of e-government promotion

Based on the literature review and the results of the in-depth interviews, this study formulates the following hypotheses to correspond to the research questions (table 5-1). The proposed measurement model of e-government promotion and the structure model of impacts of e-government promotion are illustrated in figures 5- and 5-. These two models encompass the research hypotheses and summarise the elements of e-government promotion as publicity, advertisement, WeChat and Weibo usage promotion, and staff personal persuading. In the second stage of hypothesis testing, it is speculated that e-government promotion is positively associated with awareness, PEOU, and PU, which have direct, positive impacts on intention to use. Awareness is also hypothesised to directly influence adoption, together with intention

Research Hypotheses	
H1	As the components of e-government promotion, four promotional activities as “Publicity” “Advertisement” “WeChat and Weibo usage promotion” and “staff personal persuading” compose the structure of “promotion” in the context of local Chinese e-government.
H2a	The e-government promotion is positively associated with citizens’ awareness of local e-government services.
H2b	The e-government promotion is positively associated with citizens’ perceived ease of use and usefulness on local e-government services, which are the determinants of citizens’ intention to use e-services.
H3a	Citizens’ awareness of local e-government services is positively associated with citizens’ intention to use e-services.
H3b	Citizens’ awareness of local e-government services is positively associated with citizens’ actual adoption of e-services.
H4	Citizens’ intention to use local e-government services is positively related to citizens’ actual adoption of e-services.
H5	Citizens’ actual adoption of local e-government services is positively related to citizens’ satisfaction of e-services.

Table 5-1. Research Hypotheses¹¹²

to use. Finally, citizen’s adoption is hypothesised to have a positive effect on satisfaction. The questionnaire constructs for quantitative analysis, aiming to testing these hypotheses are described in Table 5-2, including the sources from which they were gathered.

Constructs	Items	Sources/References
Publicity	Exhibition	(Titman 1995)
	Community events	
	Government workshops	
	Speeches	
Advertisement	Outdoor	(Titman 1995)
	TV radio	
	Online AD	
	Print media	
Usage Promotion By SNS	Award	(Titman 1995)
	discount	
	AD in SNS	Self-developed
	Guide in SNS	
Staff Personal Persuading	Front office	(Titman 1995)
	Online contact	
	Community	Self-developed
	Public events	
Promotion	Publicity	(Titman 1995)Self-

¹¹² Source: Author

	Advertisement	developed
	Usage Promotion By SNS	
	Staff Personal Persuading	
Perceived Usefulness	puse1	(Davis 1989)
	puse2	(Venkatesh and Davis 2000)
	puse3	
Perceived Ease of Use	peou1	(Davis 1989)
	peou2	(Venkatesh and Davis 2000)
	peou3	
Intention to Use	in1	(Davis and Venkatesh 1996)
	in2	
	in3	(Jung et al. 2012)
Adoption	adoptapp	Self-developed
	adoptwb	
	adoptwc	
	adoptweb	
Satisfaction	sat1	Self-developed
	sat2	
	sat3	
	sat4	

Table 5-2. Questionnaire constructs, items, and sources/references¹¹³

¹¹³ Source: Author

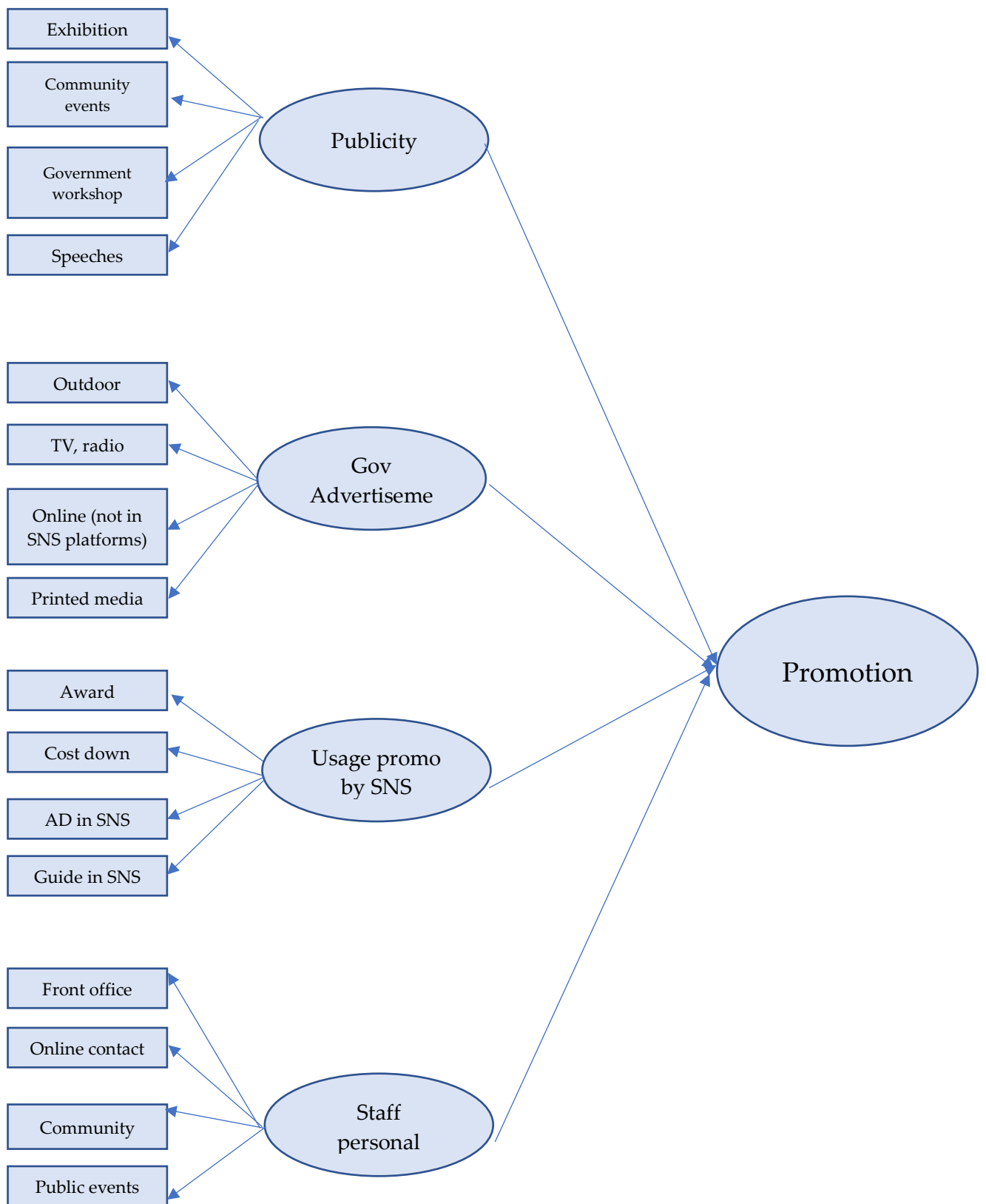


Figure 5-2. The measurement model of e-government promotion¹¹⁴

¹¹⁴ Source: Author

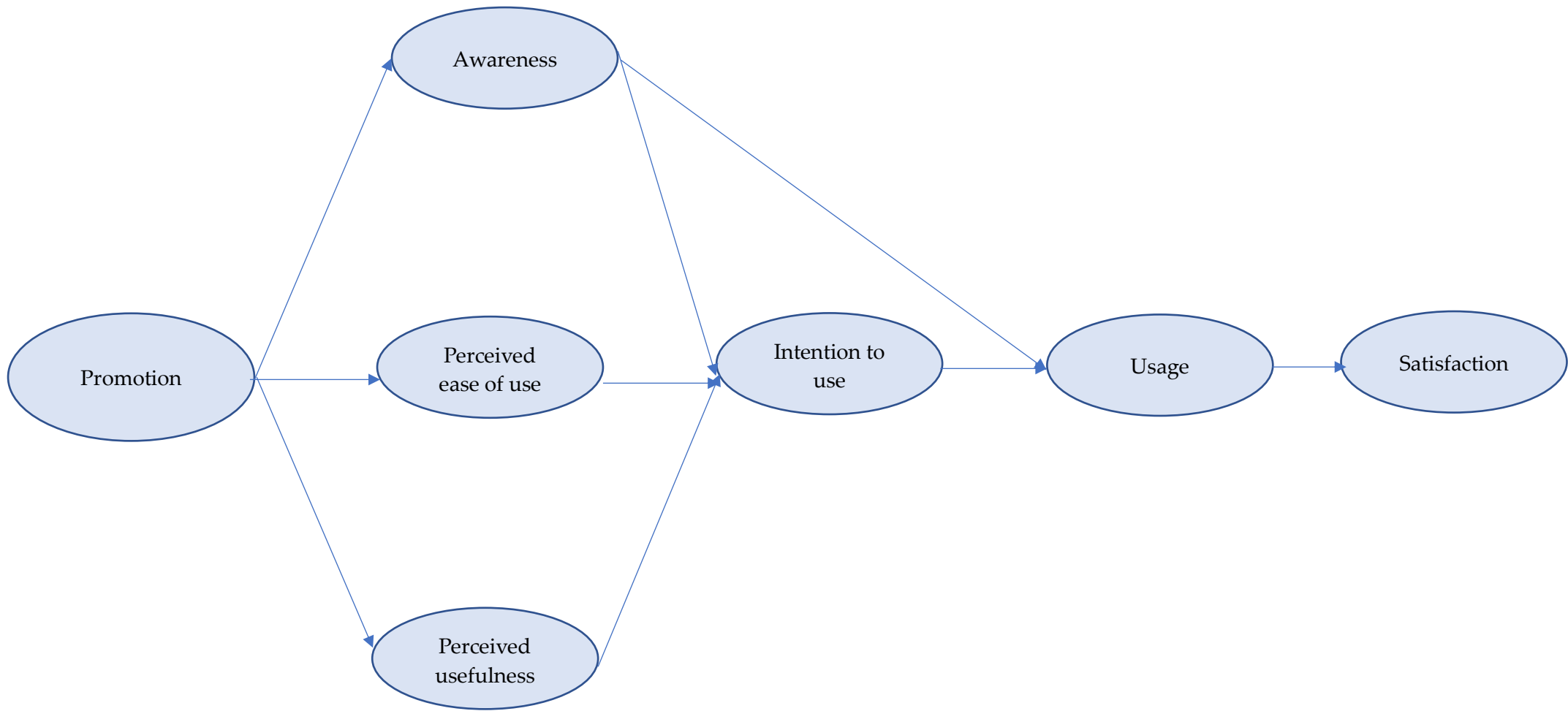


Figure 5-3. The structure model of impacts of e-government promotion¹¹⁵

¹¹⁵ Source; Author

3. Sample method

Based on previous discussion, this chapter aims to utilise quantitative methods to analyse e-government promotion and its impacts with a sample collected in the Chongqing municipality of China. This sample was divided randomly into two data sets: a pilot set and main set, to be used in the EFA to explore the structure and be verified via PLS-SEM. After the literature review and qualitative data collection in phase 1 of the exploratory research design shown in figure 3-4, the next step is phase 2: quantitative data collection and analysis to justify the e-government promotion measurement model and structural model shown in figure 5-2 and figure 5-3.

Due to the difficulty and limitation of time and access for adopting any probability sampling methods in collecting data from the citizens in Chongqing, this study employed quota sampling, which is a non-probability sampling method. It was considered the only appropriate choice, as other probability sampling methods were unavailable (Dudovskiy, 2017). Quota sampling is said to be the non-probability version of stratified sampling (Ochoa 2017).

In this method, the target population is first segmented into exclusive groups. One individual belongs to only one group, which is a similar operational approach to stratified sampling. In this research, potential candidates were selected from central Chongqing (see figure 5-4), an area including nine Central Chongqing was the original area of Chongqing municipality before the birth of the new Chongqing in 1997, which absorbed surrounding cities and counties into a giant district at the provincial level.



Figure 5-4. Central Chongqing area in the new district of Chongqing after 1997¹¹⁶

¹¹⁶ Source: The image captured from TCT (2017)

Regarding the sample's representativeness of post-1997 Chongqing in terms of sociometric and administrative status, the population proportion of each district in central Chongqing was used as reference for segmentation. On the other hand, sample size was set based on the recommendations from previous works: for example, Gorsuch and Richard (1983) suggested a sample size of at least 100; and Guilford (1954) recommended 200 as the suitable sample size (Gorsuch 1983; Guilford 1954).

N-to-p ratio is the most commonly used index to estimate the appropriateness of a sample size. The N refers to sample size while p represents the number of items included in the analysis. Previous authors have recommended a ratio from 3 to 6 (Cattell 2012); Gorsuch recommended a ratio of at least 5 (Gorsuch 1983); and some scholars advocate a strict standard, with a ratio of at least 10 (Everitt 1975). In this study, the author followed the criteria for a ratio of 10, which meant that there should be 5 to 10 subjects per item in the factor analysis.

The example of questionnaire items for the EFA and PLS-SEM is presented in table 5-3. As publicity, government advertisement, usage promotion by SNS, and staff personal persuading are the elements of the e-government promotion scale, the 16 question items of these four variables required at least 160 samples for EFA. In the same vein, all 10 variables with 37 question items for PLS-SEM required over 370 samples. Given that a larger sample size leads to a more precise and credible hypothesis testing, the author set the goal of collecting 700 samples for the analyses.

After setting the target sample size, a quota was established for each group. The Chongqing Bureau of Statistics published its latest statistic yearbook in 2017, including all the data on finance, demographics, prices, industry, and other aspects of Chongqing society. Since nine segments of citizens were set based on the nine districts of central Chongqing, the target number of citizens to be surveyed for each district is in accordance with the proportion of the population of the central area. Considering the possibility of invalid answers, 750 questionnaires were distributed to citizens.

For the method of collecting questionnaire, the author visited the aforementioned Xiaoqu, the basic unit of residence in urban China, in nine districts to reach as many local citizens as possible. As mentioned in the in-depth interview section, the local Publicity Division of

Chongqing PSB officers helped the author to contact each secondary unit (police post)¹¹⁷ of PSB in nine districts, who can contact Xiaoqu communities for cooperation. Next, the staffs and volunteers in every Xiaoqu would reach local residents to answer the questionnaire. The initial number of samples was required to meet the proportion of every district.

Questionnaire items for EFA and PLS-SEM	
Publicity	1. There are public exhibitions regarding e-government services of Chongqing.
	2. There are community events/activities/meetings regarding e-government services of Chongqing.
	3. There are official workshops/seminars regarding e-government services of Chongqing.
	4. There are public speeches/campaigns regarding e-government services of Chongqing.
Government Advertisement	1. There are outdoor advertisements (billboard, etc.) regarding e-government services of Chongqing.
	2. There are TV and radio advertisements regarding e-government services of Chongqing.
	3. There are online advertisements (not in WeChat and Weibo) regarding e-government services of Chongqing.
	4. There are printed media advertisements regarding e-government services of Chongqing.
Usage promotion by SNS (WeChat and Weibo)	1. There are advantages and convenience offered on WeChat and Weibo if choosing their e-government services platforms.
	2. A discount (time or procedure reduced) is offered on WeChat and Weibo if choosing their e-government services platforms.
	3. There are advertisements on WeChat and Weibo regarding their e-government service platforms.
	4. There are guides on WeChat and Weibo regarding their e-government service platforms.
Staff personal persuading	1. There are staffs persuading and helping citizens with e-government services at front office.
	2. There are staffs can be contacted online that will persuade and help citizens with e-government services.
	3. There are staffs from community to persuade and help citizens with e-government services (including visiting home).
	4. There are staffs persuading and helping citizens with e-government services at public events.
Awareness	1. How much are you aware of Chongqing government's e-services on WeChat platform
	2. How much are you aware of Chongqing government's e-services on Weibo platform

¹¹⁷ The original Chinese name of "police post" is "派出所".

	3. How much are you aware of Chongqing government's official mobile APP
	4. How much are you aware of Chongqing government's website e-services?
Perceived usefulness	1. I believe adopting e-government services is useful to me.
	2. I believe adopting e-government services will be more effective and efficient (time saving).
	3. I believe adopting e-government services will help me in better connection with government.
Perceived ease of use	1. Adopting e-government services is easy for me.
	2. I think e-government services is easy-to-understand.
	3. I think I can easily get what I want via e-government services.
Intention to use	1. It is probable that I will begin or continue using e-government services.
	2. I intend to begin or continue using e-government services in the future.
	3. I will recommend others to use e-government services
Adoption	1. How often do you use Chongqing government's e-services on WeChat platform
	2. How often do you use Chongqing government's e-services on Weibo platform
	3. How often do you use Chongqing government's official mobile APP
	4. How often do you use Chongqing government's website e-services?
Satisfaction	1. I'm satisfied with Chongqing government's e-services on WeChat platform
	2. I'm satisfied with Chongqing government's e-services on Weibo platform
	3. I'm satisfied with Chongqing government's official mobile APP
	4. I'm satisfied with Chongqing government's website e-services

Table 5-3. An example of questionnaire items of 10 variables for EFA and PLS-SEM¹¹⁸

After nearly three weeks of this procedure in August 2017, 750 questionnaires were collected. However, 34 of them were excluded because of invalid answers. The final results of the valid questionnaires and their proportion were compared to actual data from Chongqing's 2017 statistic yearbook, as presented in table 5-4. It can be seen from table 5-4 that the final sample proportion across each district closely resembles actual data of central Chongqing. Therefore, the sample is representative of the citizens of nine districts in the central area.

¹¹⁸ Source: Author

District	Population (10000 persons)	Actual Proportion	Target sample	Valid sample	Sample proportion
Yuzhong	65.72	7.7%	54	57	8.0%
Dadukou	34	4.0%	28	22	3.1%
Jiangbei	86.14	10.1%	71	73	10.2%
Nan'an	87.39	10.3%	72	75	10.5%
Shapingba	113.39	13.3%	93	96	13.4%
Jiulongpo	120.18	14.1%	99	101	14.1%
Beibei	79.61	9.3%	65	68	9.5%
Yubei	160.25	18.8%	132	135	18.9%
Banan	105.12	12.3%	86	89	12.4%

Table 5-4. Final sample in nine districts of central Chongqing¹¹⁹

4. Descriptive analysis

This section examines the demographic factors, ratio of sample size, and outliers of the collected data. The relationship between local e-government services adoption and demographic factors is also observed.

4.1 Demographic characteristics

The demographic factors of the sample are presented in table 5-5. Regarding the age range of the surveyed citizens, 87.15% were between the 20 and 50 years old. The official statistic yearbook of Chongqing only calculates age groups as 'below 15', 'between 15 and 64', and 'over 64', and the proportion of citizens aged between 15 to 64 years old in 2016 was 70.91% (CQTJ 2017). Without a huge bias of age, the sample seems to slightly over-represent the young generation aged between 21 and 30 (42.74%), and to be less representative of senior citizens over 50 (4.75%). Considering that Chongqing is still a young municipality compared to others (for example, in 2015, 28.8% of citizens in Shanghai were over 60, 21.18% in Tianjin, and 22.6% in Beijing, while this was 18.61% in Chongqing) (Winshang 2015), the over-representation of young citizens can be accepted. The next demographic factor is gender. The sex ratio of Chongqing in 2016 was reported to be 102.61 (female=100), showing that men are slightly overrepresented in the present data. To examine the potential digital gap between local residents and outsiders, the factor of Chongqing residency was introduced by asking whether

¹¹⁹ Source: Author, actual population data derived from Chongqing statistic yearbook of 2017, CQTJ (2017)

respondents were Chongqing residents or not. According to the latest data, immigrants in central Chongqing reached 1.5 million, accounting for 17.6% of whole population. In the sample, 32.68% of respondents were immigrants living in Chongqing without local residency. Regarding education background, 87.02% of the respondents were educated over high-school level, and the numbers of respondents with a college degree or more are balanced (31.01% vs. 34.36%). IT literacy is another important variable in this survey, since the research subject is related to individuals' experience with ICT. Of the respondents, 40.92% claimed that they had an intermediate level of IT literacy, and 32.26% considered themselves to be proficient in operating the internet and digital devices. Income is also an important demographic element to observe. In this sample, nearly half of the respondents received a month income between 3,000 and 6,000 CNY. Considering that the average disposable income of Chongqing citizens

Characteristic	No. (N = 716)	Percentage (%)
Age (years)		
Under 20	58	8.1%
21–30	306	42.74%
31–40	225	31.42%
41–50	93	12.99%
51–60	26	3.63%
Over 60	8	1.12%
Gender		
Male	424	59.22%
Female	292	40.78%
Chongqing residency		
Resident	482	67.32%
Non-resident	234	32.68%
Education (Highest education level completed)		
Elementary school	13	1.82%
Junior high school	80	11.17%
High school	155	21.65%
Three-year college	222	31.01%
Bachelor degree	207	28.91%
Master degree and above	39	5.45%
IT literacy		
Below basic	63	8.8%
Basic	129	18.02%
Intermediate	293	40.92%
Proficient	231	32.26%
Income (Monthly)		
Below 1,000 CNY	82	11.45%

1,000 CNY~ 3,000 CNY	111	15.50%
3,000 CNY~ 6,000 CNY	328	45.81%
6,000 CNY ~ 9,000 CNY	150	20.95%
9,000 CNY ~12,000 CNY	29	4.05%
Over 12,000 CNY	16	2.24%
Occupation		
Student	43	6.01%
Government employee	54	7.54%
Institution employee	95	13.27%
Enterprise employee	222	31.01%
Farmer or worker	108	15.08%
Self-operated business	89	12.43%
Freelancer	79	11.03%
Unemployed	26	3.63%

Table 5-5. Demographic factors of sample¹²⁰

was 2,467.5 in 2016 (CQ TJ 2017), there is no obvious bias in the sample towards a specific group. The last factor, occupation, was used to avoid overrepresentation of citizens with a specific working status. The sample seems balanced in each career category, with the largest proportion working as enterprise employees, accounting for 31.01% of respondents.

4.2 Local e-government service awareness, adoption and demographic factors

This section aims to observe the the source of awareness and the relationship between local e-government service adoption and demographic factors. First, figure 5-5 demonstrates how do citizens become aware of the local e-government services. “Online channels”¹²¹ here refers to the advertisement and introduction provided online while “Offline channels”¹²² represents advertisement and introduction provided offline. The result reveals that most citizens were exposed to e-service through online channels while the second largest proportion of source of awareness is recommended by staffs. There are also a certain number of citizens that are totally unaware of the existence of such e-services. However, offline channels are the rarest way where citizens get to know local e-services.

¹²⁰ Source: Author

¹²¹ The original expression is “网上的广告或介绍” in Chinese,

¹²² The original expression is “实体广告或介绍” in Chinese.

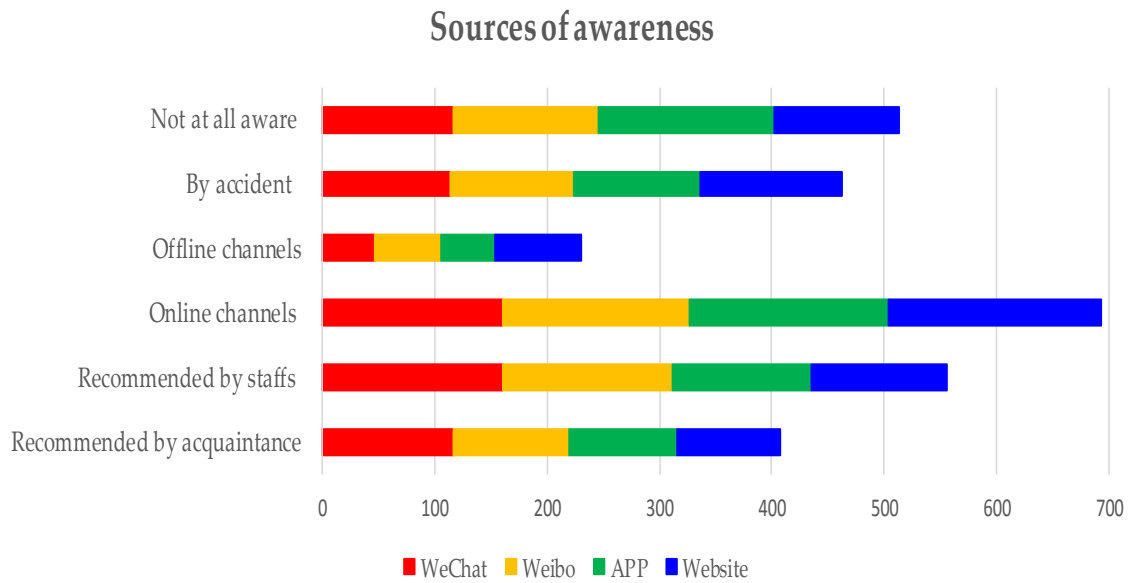


Figure 5-5. Sources of awareness of local e-government services¹²³

Next, figure 5-6 below shows that in general, among the four-major local e-services in Chongqing, people use the WeChat e-service platform (WeChat Government) the most frequently, followed by the official government website and the government’s official Weibo account (Weibo Government). The adoption rates of the latter two are nearly identical. In contrast, the official government app is the least popular e-service application. This proves the high prevalence of WeChat in local citizens’ daily life, not only for social functions but also to interact with the government.

¹²³ Source: Author

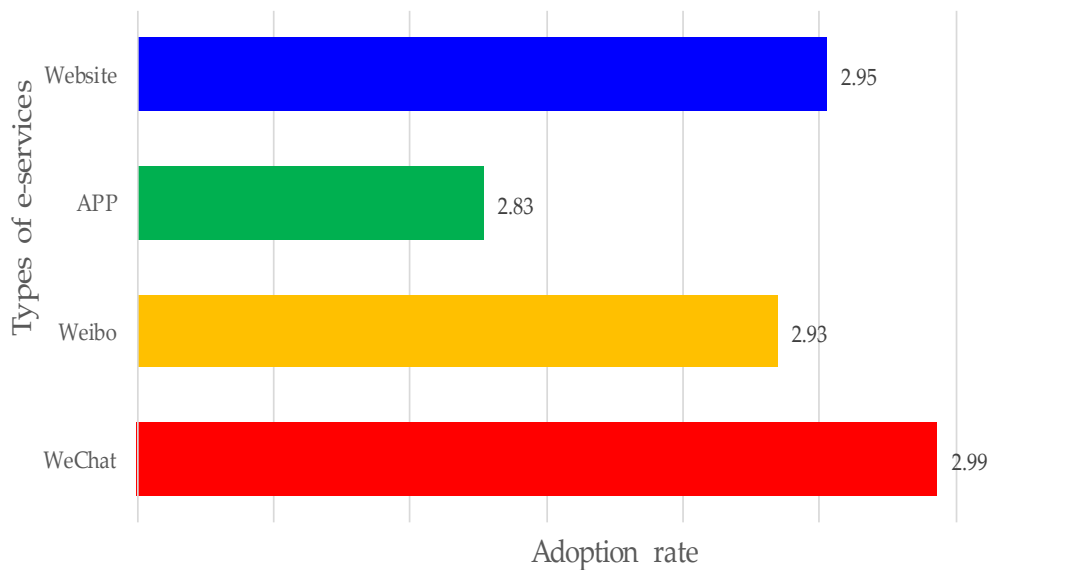


Figure 5-6. Adoption rates of four types of local e-government services¹²⁴

How do different groups of citizens adopt these four types of e-services? Figures 5-7 to 6 illustrate the usage of e-services by people of various ages, genders, residency statuses, educational backgrounds, IT literacy levels, and income levels. Figure 5-7 shows the level of adoption of e-services by different age groups. As age increases, there is more adoption of all four services, whereas it declines once people are over 40 years old, and they become less and less interested in e-government services with age. The middle-aged group (31-40) represents the most frequent users of local e-government services. The adoption rate of each service also differs within the same generation. For example, compared with other age groups, people aged 51–60 maintain higher usage rates of mobile-oriented applications (official government app, Weibo government official accounts, and especially WeChat public services), and express less preference for computer-oriented services (government website portal). Another interesting result is that people over 60 use WeChat services far more frequently than other applications. This may be because this application provides a perceived ‘low barrier’ user experience compared with other mobile applications (Economist 2016). This preference for the WeChat application may naturally lead older people to embrace embedded government services on the same platform. These results prove that WeChat has contributed to promoting

¹²⁴ Source: Author

older adults' usage of government e-services by merging public needs into the commercial application with a streamlined design.

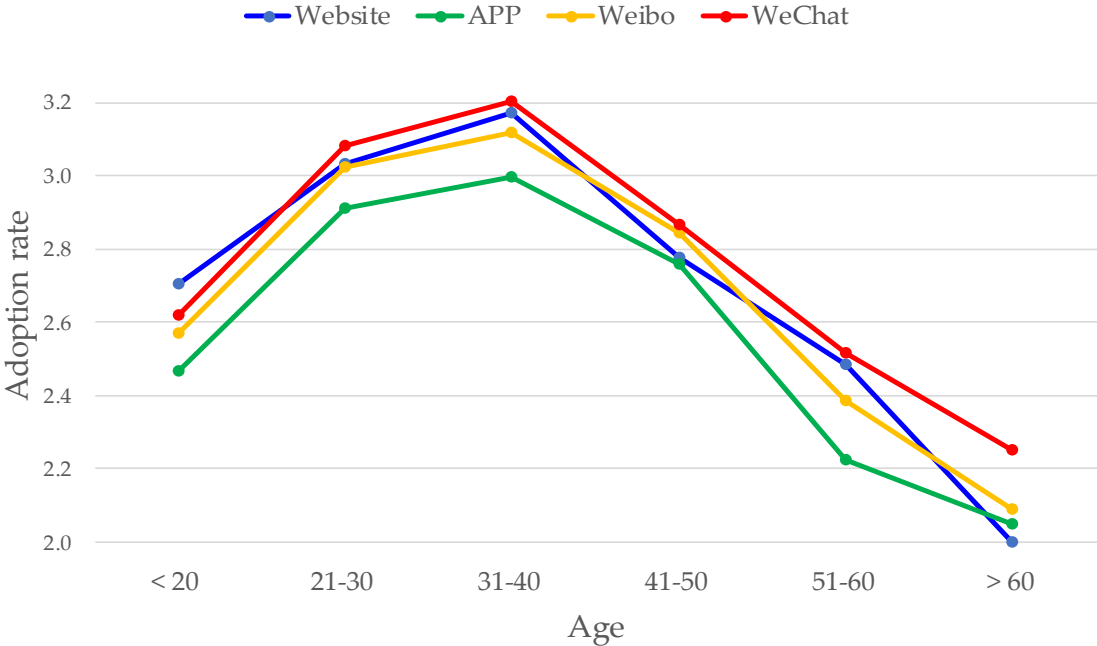


Figure 5-7. Age and adoption rate of local e-government services¹²⁵

In terms of gender and residency, Figure 5-8 illustrates that males have a higher adoption rate of local e-services than females in all four applications, though the gap shrinks in the usage of the official government app. This shows the same result with the findings from Yang (2017)'s empirical study regarding female's less favour on Weibo e-service. According to Yang, "the reason why women are less willing to adopt the Weibo e-service than men may be determined by observing the characteristics of the Weibo platform. Since the Weibo government account is a more politics-dominated space, providing political news and discussion to citizens, women may be not actively participating because of their reduced interest in politics compared to men as reported in some studies" (Verba, Burns, and Schlozman 1997; Yang 2017).

¹²⁵ Source: Author

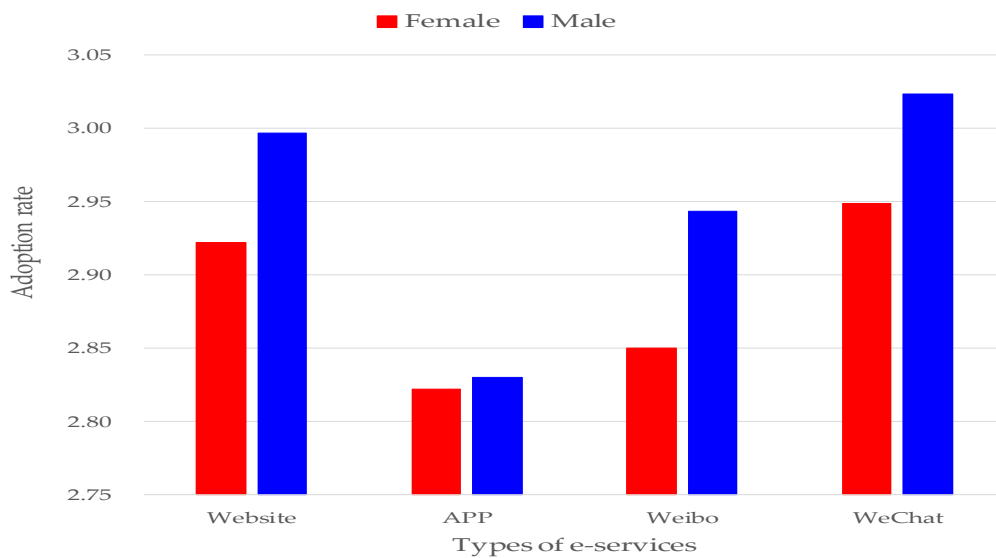


Figure 5-8. Gender differences in adoption of local e-government services¹²⁶

Local residency was imported as a new factor to test whether a digital gap exists between local residents and non-residents. It was found that the *hukou* system does create differences: local residents are far more engaged with e-government services than immigrants in all applications. This gap is the largest for the official government app, and the smallest for the WeChat application (figure 5-9).

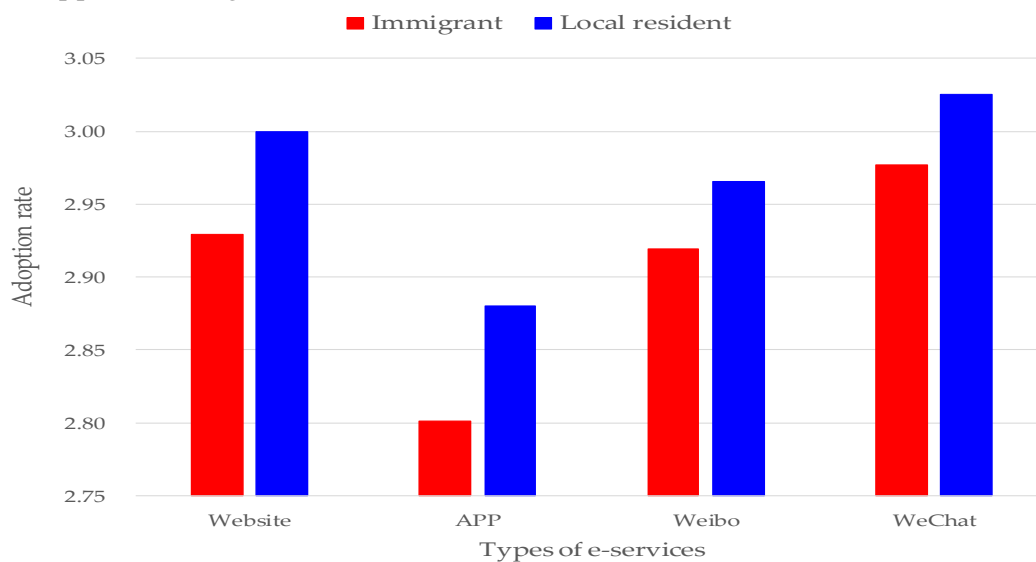


Figure 5-9. Local residency differences on adoption of local e-government services¹²⁷

¹²⁶ Source: Author

¹²⁷ Source: Author

Education and IT literacy have been listed as demographic influences in previous studies; Figures 5-10 and 5-11 offer a clear picture of people adopting e-government services with diverse education backgrounds and experience with IT. As previous studies have found, education level and IT literacy do affect people’s usage of e-services (Taipale 2013; Chatfield and Alhujran 2009; OECD). Some interesting findings in the present study suggest that people who have a master’s degree and above prefer to adopt government website portals than WeChat public services, while all other groups use WeChat the most frequently. Overall, people educated at a higher level demonstrate more adoption of all four types of e-services,

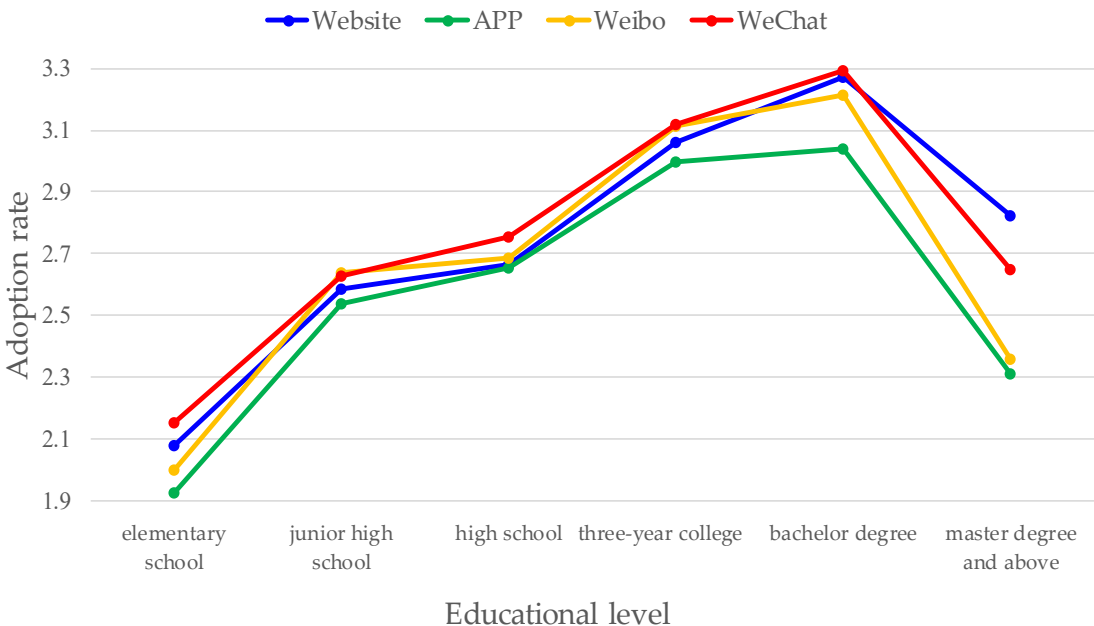


Figure 5-10. Education level and adoption of local e-government services¹²⁸

Furthermore, a linear relation was observed between IT literacy and e-government service adoption. The more proficient people claim to be in IT skills, the more they adopt local e-services in all forms. The results show that a digital divide still exists, and people with poor digital literacy may suffer when using e-channels to interact with government.

¹²⁸ Source: Author

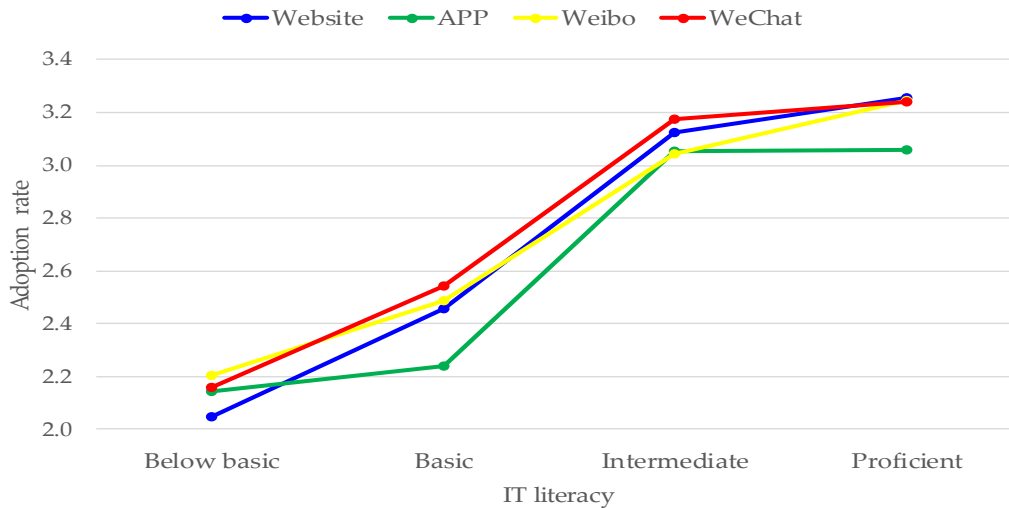


Figure 5-11. IT literacy and adoption of local e-government services¹²⁹

Lastly, the relationship between income and e-government service adoption is observed. Some previous studies have suggested that income has a positive impact on citizens' usage of e-services (West 2004a; Colesca 2009). As shown in figure 5-12, citizens who earn between 1,000 CNY and 12,000 CNY a month have higher rates of adoption of local e-services as their income grows. However, the interest declines when people earn over 12,000 CNY a month. As most of the respondents who earned less than 1,000 CNY were students, it is reasonable to assume that young citizens have more interest in digital channels than the low-income group (1,000 CNY ~3,000 CNY).

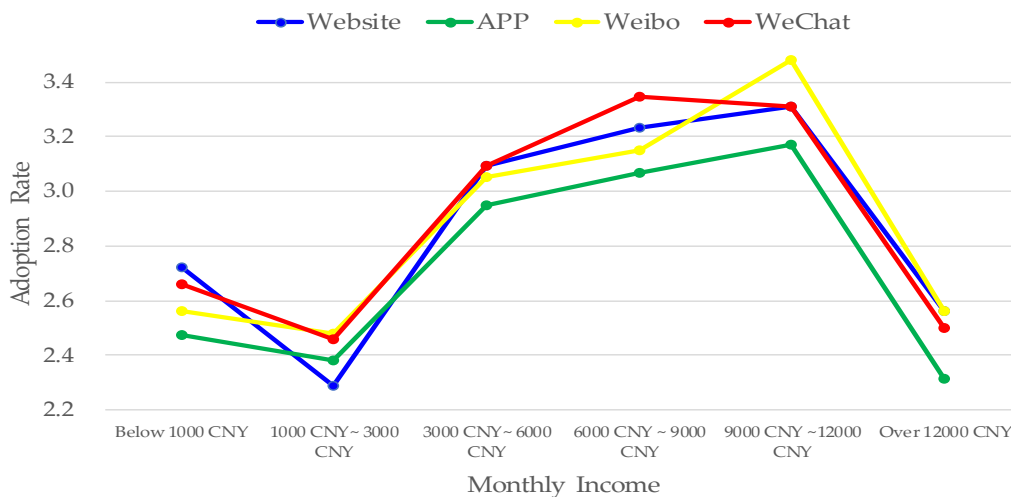


Figure 5-12. Income level and adoption of local e-government services¹³⁰

¹²⁹ Source: Author

¹³⁰ Source: Author

4.3 Summary of question items

After examining the demographic variables, the sample was divided into two sets for EFA and PLS-SEM. SPSS software was used to ensure randomness and unbiasedness in this process. The author set up the criteria for the ratio as 10, which meant that each item in the factor analysis had to contain between 5 and 10 subjects. As the minimum sizes of EFA and PLS-SEM datasets are 160 and 370, the whole sample was divided into 40% and 60% for the two analyses. With a sample size of 284 for the EFA, the ratio between the number of respondents (284) and the number of question items (16) was 17.15. In the same way, the sample ratio (37 question item and 432 respondents) of the PLS-SEM dataset was 11.67. Both sample ratios were ideal for factor analysis (>10).

Lastly, all question items were checked to avoid potential outliers. As the questionnaire used a five-point Likert-type scale for the measurement of each question, a summary of means and standard deviation was used for this purpose (table 5-6).

Question item	Variable name	Obs	Mean	Standard deviation
1. There are public exhibitions regarding e-government services of Chongqing.	Exhibition	716	3.845	0.777
2. There are community events/activities/meetings regarding e-government services of Chongqing.	Community events	716	3.789	0.775
3. There are official workshops/seminars regarding e-government services of Chongqing.	Government workshops	716	3.764	0.798
4. There are public speeches/campaigns regarding e-government services of Chongqing.	Speeches	716	3.736	0.798
5. There are outdoor advertisements (billboard, etc.) regarding e-government services of Chongqing.	Outdoor	716	3.911	0.763
6. There are TV and radio advertisements regarding e-government services of Chongqing.	TV/radio	716	3.803	0.703
7. There are online advertisements (not on WeChat and Weibo) regarding e-government services of Chongqing.	Online (non SNS)	716	3.743	0.758

8. There are printed media advertisements regarding e-government services of Chongqing.	Printed media	716	3.750	0.770
9. It is advantageous and convenient to use the WeChat and Weibo e-government service platforms.	Award	716	3.809	0.789
10. A discount (reduced time or procedure) is offered on the WeChat and Weibo e-government service platforms.	Discount	716	3.800	0.790
11. There are advertisements on WeChat and Weibo regarding their e-government service platforms.	Ad in SNS	716	3.708	0.789
12. There are guides on WeChat and Weibo regarding their e-government service platforms.	Guide in SNS	716	3.792	0.781
13. Staff members persuade and help citizens with e-government services at the front office.	Front office	716	3.730	0.820
14. Staff members can be contacted online who will persuade and help citizens with e-government services.	Online contact	716	3.750	0.838
15. Staff members from the community persuade and help citizens with e-government services (including visiting homes).	Community	716	3.733	0.823
16. Staff members persuade and help citizens with e-government services at public events.	Public events	716	3.721	0.800
17. How aware are you of Chongqing government's e-services on the WeChat platform?	Awarewc	716	3.242	1.104
18. How aware are you of Chongqing government's e-services on the Weibo platform?	Awarewb	716	3.177	1.080
19. How aware are you of Chongqing government's official mobile app?	Awareapp	716	3.038	1.099
20. How aware are you of Chongqing government's website e-services?	Awareweb	716	3.200	1.045
21. How often do you use Chongqing government's e-services on the WeChat platform?	Adoptwc	716	3.004	1.235
22. How often do you use Chongqing government's e-services on the Weibo platform?	Adoptwb	716	2.946	1.263

23. How often do you use Chongqing government's official mobile app?	Adoptapp	716	2.837	1.316
24. How often do you use Chongqing government's website e-services?	Adoptweb	716	2.962	1.246
25. I believe that adopting e-government services is useful to me.	Ppuse1	716	3.680	0.811
26. I believe that adopting e-government services will be more effective and efficient (time saving).	Ppuse2	716	3.744	0.825
27. I believe that adopting e-government services will help me to better connect with the government.	Ppuse3	716	3.719	0.820
28. Adopting e-government services is easy for me.	Peou1	716	3.691	0.840
29. I think e-government services are easy to understand.	Peou2	716	3.696	0.859
30. I think I can easily get what I want via e-government services.	Peou3	716	3.708	0.836
31. It is probable that I will begin or continue to use e-government services.	In1	716	3.698	0.857
32. I intend to begin or continue to use e-government services in the future.	In2	716	3.715	0.854
33. I will recommend that others use e-government services.	In3	716	3.661	0.832
34. I'm satisfied with Chongqing government's e-services on the WeChat platform.	Sat1	716	3.605	0.839
35. I'm satisfied with Chongqing government's e-services on the Weibo platform.	Sat2	716	3.622	0.828
36. I'm satisfied with Chongqing government's official mobile app.	Sat3	716	3.606	0.832
37. I'm satisfied with Chongqing government's website e-services.	Sat4	716	3.626	0.831

Table 5-6. Standard deviation summary of question items¹³¹

The means of the answers to all 37 question items remain between a minimum score of 1 and a maximum score of 5, with the standard deviation ranging from 0.7 to 1.3. Therefore, the data show that there were no outliers in the sample.

¹³¹ Source: Author

5. Exploratory factor analysis (EFA)

This section uses dataset 1, containing 284 samples, for EFA, with the aim to uncover the measurement scale of e-government promotion. Principle component analysis (PCA) with promax (oblique) rotation in SPSS was used to reduce items and formulate the factor structure. All 16 question items that were hypothesised to contain the variables of publicity, government advertisement, usage promotion by SNS, and staff personal persuading were tested. The eigenvalue is normally suggested to be greater or equal to 1, and each item needed to be examined carefully. If a question item had a low factor loading or performed highly on more than one factor, it had to be eliminated. As a first step, the items with a low factor loading were eliminated. As a rule of thumb in PCA, 'only factor loading with an absolute value greater than 0.5 can be accepted' (Stevens 2012).

Question item	Component			
	1	2	3	4
Printed media	0.854	0.384	0.475	0.500
Outdoor	0.851	0.554	0.640	0.538
Online (not in SNS)	0.840	0.425	0.507	0.566
TV/radio	0.832	0.549	0.591	0.597
Online contact	0.460	0.865	0.470	0.474
Front office	0.365	0.850	0.565	0.540
Public events	0.482	0.845	0.474	0.544
Community	0.441	0.832	0.540	0.507
Guide in SNS	0.233	0.439	0.323	0.385
Exhibition	0.577	0.517	0.911	0.485
Speeches	0.544	0.495	0.900	0.525
Gov. workshops	0.491	0.495	0.875	0.503
Community events	0.547	0.587	0.872	0.527
Award	0.496	0.539	0.498	0.893
Discount	0.550	0.546	0.484	0.857
Ad in SNS	0.582	0.463	0.526	0.840

Table 5-7. Structure matrix of PCA¹³²

¹³² Source: Author

As shown in table 5-7, the result of the first PCA of items for the e-government promotion scale led to the extraction of four factors. As discussed above, an item with a factor loading of less than 0.5 should be eliminated. From the result, the question item 'guide in SNS' was removed because of its lower loading on all four factors. This means that this item failed to represent any factor or to correlate with another item. On the other hand, the remaining question items were identified to join specific factors with a loading greater than 0.4. To confirm the structure, all the remaining items were re-checked using PCA with an extra examination of Cronbach's reliability coefficient. The results are demonstrated in table 5-8 below.

Question item	Variable name	Factor loading	Cronbach's alpha
Publicity			0.914
1. There are public exhibitions regarding e-government services of Chongqing.	Exhibition	0.911	
2. There are community events/activities/meetings regarding e-government services of Chongqing.	Community events	0.873	
3. There are official workshops/seminars regarding e-government services of Chongqing.	Government workshops	0.875	
4. There are public speeches/campaigns regarding e-government services of Chongqing.	Speeches	0.901	
Government advertisement			0.875
5. There are outdoor advertisements (billboard, etc.) regarding e-government services of Chongqing.	Outdoor	0.713	
6. There are TV and radio advertisements regarding e-government services of Chongqing.	TV/radio	0.673	
7. There are online advertisements (not on WeChat and Weibo) regarding e-government services	Online (non SNS)	0.779	

of Chongqing.			
8. There are printed media advertisements regarding e-government services of Chongqing.	Printed media	0.872	
Usage promotion by SNS			0.838
9. It is advantageous and convenient to use the WeChat and Weibo e-government service platforms.	Award	0.909	
10. A discount (reduced time or procedure) is offered on the WeChat and Weibo e-government service platforms.	Discount	0.788	
11. There are advertisements on WeChat and Weibo regarding their e-government service platforms.	Ad in SNS	0.772	
Staff personal persuading			0.876
12. Staff members persuade and help citizens with e-government services at the front office.	Front office	0.780	
13. Staff members can be contacted online who will persuade and help citizens with e-government services.	Online contact	0.878	
14. Staff members from the community can persuade and help citizens with e-government services (including visiting homes).	Community	0.772	
15. Staff members persuade and help citizens with e-government services at public events.	Public events	0.795	

Table 5-8. E-government promotion dimensions identified by principal factor analysis¹³³

As the final result of the EFA, the remaining 15 items loaded significantly on four factors, which are hypothesised to constitute the measurement scale of e-government promotion. The factor loadings ranged from 0.6 to 0.9, with a Cronbach's alpha greater than 0.8. The

¹³³ Source: Author

Cronbach's alpha is commonly used to measure internal consistency by testing the correlation between different items to see whether they can express the same general construct. A commonly accepted rule of thumb is that an alpha of 0.7 indicates acceptable reliability, and 0.8 or higher indicates good reliability. From table 5-8, the results suggest a good reliability of each factor and its interior items. Therefore, four factors were generated based on the EFA:

1. Publicity, which consists of the four items of 'exhibition', 'community events', 'government workshops', and 'speeches' to reveal a series of publicity activities to campaign for e-government services to citizens;

2. Government advertisement, which includes the four items of 'outdoor', 'TV/radio', 'online (not in SNS)', and 'printed media' to describe local government's investment in all sorts of advertisements to promote e-government services;

3. Usage promotion by SNS, which consists of the three items of 'award', 'discount', and 'ad in SNS' to show the efforts made by SNS operators to promote their e-government service platforms.

4. Staff personal persuading, which consists of four items of "front office", "online contact", "community" and "public events" to represent how staffs can personally promote e-government service to citizens.

6. Partial Least Square Structural Equation Modelling (PLS-SEM)

After the EFA uncovered the underlying structure of the measured variables, PLS-SEM was used to confirm whether the hypothesised models are consistent with the present data. In this study, dataset 2 with a sample size of 432 is for testing the full hypothesised models (both measurement and structure models). The measurement model represents the relationships between the observed items and latent variables, while the structural model represents the relationship between the latent variables.

6.1 Full model in PLS-SEM

As shown in figure 5-2 and figure 5-3, the full model of e-government promotion contains both a measurement model and a structure model. The measurement model aims to confirm the inherent structure of e-government promotion to ensure the expressivity of observed

indicators (items) on one unified factor: promotion. The measurement scale was based on three stages: theoretical query in the literature review, practical fact-checking in the in-depth interviews, and pretesting via EFA. The last step of confirmatory factor analysis completed the verification process with solid empirical data. The structure model, known as the inner model of PLS, was applied to estimate the hypothesised relationship between the latent variables. This inner model was designed to justify the impacts of e-government promotion on citizens' behaviours towards e-services, including awareness, PU, PEOU, intention to use, adoption, and satisfaction. Among the hypothetical paths in proposed structure model, e-government promotion has direct positive effects on citizens' awareness, PU, and PEOU, while these three factors influence citizens' behavioural intention and actual adoption. Furthermore, citizens' adoption is hypothesised to positively impact citizens' satisfaction with e-government services. The full model in PLS-SEM is elaborated in figure 5-13 below.

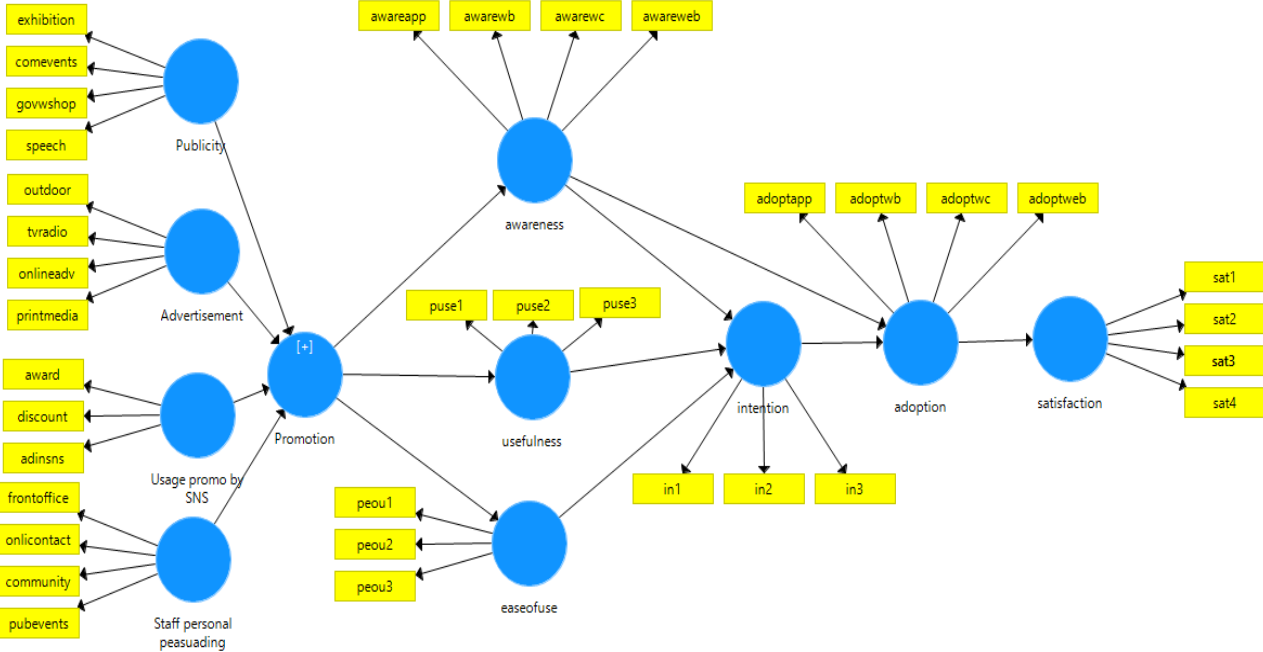


Figure 5-13. Full research model in PLS-SEM¹³⁴

Dataset 2 with 432 samples was placed into PLS-SEM for analysis. Table 5-9 shows all the latent variables and their manifest variables. Both reflective and formative constructs are included in the measurement model. One formative second-order construct, 'promotion', is formed by four first-order reflective factors, 'publicity', 'advertisement', 'usage promotion by

¹³⁴ Source: Author

SNS', and 'staff personal persuading'. These four causal indicators form 'promotion' as a combination variable. As defined by many previous studies, a formative construct is caused by and fully derived from the measurement, in contrast to the causal path in a reflective construct (MacCallum, 1993 {MacKenzie, 2005 Freeze, 2007). Promotion remains a formative construct because an increase in one of the four promotional factors increases the level of promotion instead of affecting the other three constructs. Therefore, the structure of e-government promotion is a formative construct.

Latent Variables	Manifest variables	LV mode	Model
Publicity	exhibition comevents govwshop speech	Reflective	Exogenous
Advertisement	outdoor tvradio onlineadv printmedia	Reflective	Exogenous
UPBS	award discount adinsns	Reflective	Exogenous
SPP	frontoffice onlicontact community pubevents	Reflective	Exogenous
Promotion	publicity advertisement upbs spp	Formative	Endogenous
Awareness	awareapp awarewb awarewc awareweb	Reflective	Exogenous
Usefulness	puse1 puse2 puse3	Reflective	Exogenous
Ease of use	peou1 peou2 peou3	Reflective	Exogenous
Intention	in1 in2 in3	Reflective	Exogenous

Adoption	adoptapp adoptwb adoptwc adoptweb	Reflective	Exogenous
Satisfaction	sat1 sat2 sat3 sat4	Reflective	Exogenous

Table 5-9. Latent variables and their manifest variables¹³⁵

Table 5-11 and table 5-12 present the factor loading of each item imbedded in the latent variables. Ten exogenous latent variables are analysed in the model, as shown in table 5-11. Different scholars have divergent opinions on the significant level of factor loading. As cited in table 5-10, Hair et al. (1998) have suggested that the appropriate loading should be based on the sample size; however, some researchers have identified 0.6 as the standard level regardless of the sample size, and 0.7 is also a widely accepted criterion (Guadagnoli and Velicer 1988; Field 2009; Hair et al. 1998; MacCallum et al. 1999). Though the sample size is greater than 350, this study adopted 0.7 as the acceptance level of factor loading for exogenous latent variables.

Factor loading	Sample size needed for significance
Hair et al. (1998)	
0.3	350
0.35	250
0.40	200
0.45	150
0.50	120
0.55	100
0.60	85
0.65	70
0.70	60
0.75	50
Guadagnoli and Velicer (1988), Field (2009)	
0.6	Regardless of sample size
MacCallum et al. (1999)	
0.7	Small sample size

Table 5-10. Significance standard of factor loadings¹³⁶

¹³⁵ Source: Author

¹³⁶ Source: Author. The data derived from Hair et al. (1998); Guadagnoli and Velicer (1988); Field (2009);

Latent variables (LVs)	Final items	Manifest variables	Factor loading (>0.7)
Publicity	3	exhibition	0.891
		comevents	0.880
		govwshop	0.861
		speech	0.869
Advertisement	4	outdoor	0.879
		tvradio	0.883
		onlineadv	0.850
		printmedia	0.812
UPBS	3	award	0.875
		discount	0.827
		adinsns	0.831
SPP	4	frontoffice	0.835
		onlicontact	0.815
		community	0.809
		pubevents	0.784
Awareness	4	awareapp	0.894
		awarewb	0.931
		awarewc	0.921
		awareweb	0.891
Usefulness	3	puse1	0.859
		puse2	0.863
		puse3	0.874
Ease of use	3	peou1	0.871
		peou2	0.857
		peou3	0.868
Intention	3	in1	0.881
		in2	0.868
		in3	0.822
Adoption	4	adoptapp	0.921
		adoptwb	0.920
		adoptwc	0.939
		adoptweb	0.863
Satisfaction	4	sat1	0.881
		sat2	0.895
		sat3	0.887
		sat4	0.884

Table 5-11. Factor loadings of exogenous latent variables¹³⁷

MacCallum et al. (1999)

¹³⁷ Source: Author

The results of the factor loadings of manifest variables are presented in table 5-11 above. With a range from 0.784 to 0.939, all the factors are highly correlated with their latent variables. The results prove that the exogenous latent constructs are well-established and suitable for the next step: testing the outer model.

As for the formative construct, T-statistics and the variance inflation factor (VIF) are tested in table 5-12. T-statistics are used to estimate the significance of certain paths. A well-acknowledged rule of thumb for T-tests is that if the value is larger than 1.96, then the path coefficient is significant with a level of 5%. All four promotional factors are proven to significantly form the formative construct of e-government promotion, with the values of T-statistics ranging from 29.020 to 32.343. On the other hand, VIF was used to test if these four factors are linearly related. A strict criterion for VIF is that a value of less than 5 suggests that the predicted variable is uncorrelated with others. The VIF results of the four promotional factors demonstrate that multicollinearity is not an issue in this scale. These results also prove the rationality of promotion serving as the formative construct, as all four factors individually affect the level of e-government promotion.

Latent variable	Formative variable	T-Statistics (>1.96)	VIF (<5)
Promotion	publicity	29.020	1.717
	advertisement	32.343	2.452
	UPBS	23.158	2.151
	staffpersuading	30.006	1.818

Table 5-12. Factor loadings for the endogenous formative variable¹³⁸

6.2 Reliability and validity of outer model

This section aims to examine the reliability and validity of all latent variables in the outer model. Several items are analysed in this process, including indicator reliability, rho_A, composite reliability, average variance extracted (AVE) values, and discriminant validity. The results are summarized in table 5-13 as below.

¹³⁸ Source: Author

Latent variables	Indicators	Loading (>0.7)	Indicator reliability (>0.4)	rho_A (>0.7)	Composite reliability (>0.7)	AVE (>0.5)	Discriminant validity (square root of AVE)
Publicity	exhibition	0.891	0.794	0.899	0.929	0.766	0.875
	comevents	0.880	0.774				
	govwshop	0.861	0.741				
	speech	0.869	0.755				
Advertisement	outdoor	0.879	0.773	0.881	0.917	0.734	0.857
	tvradio	0.883	0.780				
	onlineadv	0.850	0.723				
	printmedia	0.812	0.659				
UPBS	award	0.875	0.766	0.8	0.882	0.714	0.845
	discount	0.827	0.684				
	adinsns	0.831	0.691				
SPP	frontoffice	0.835	0.697	0.827	0.885	0.658	0.811
	onlicontact	0.815	0.664				
	community	0.809	0.654				
	pubevents	0.784	0.615				
Awareness	awareapp	0.894	0.799	0.93	0.95	0.827	0.909
	awarewb	0.931	0.867				
	awarewc	0.921	0.848				
	awareweb	0.891	0.794				
Usefulness	puse1	0.859	0.738	0.833	0.899	0.749	0.865
	puse2	0.863	0.745				
	puse3	0.874	0.764				
Ease of use	peou1	0.871	0.759	0.832	0.899	0.749	0.865
	peou2	0.857	0.734				
	peou3	0.868	0.753				
Intention	in1	0.881	0.776	0.821	0.893	0.736	0.858
	in2	0.868	0.753				
	in3	0.822	0.676				
Adoption	adoptapp	0.921	0.848	0.938	0.951	0.83	0.911
	adoptwb	0.92	0.846				
	adoptwc	0.939	0.882				
	adoptweb	0.863	0.745				
Satisfaction	sat1	0.881	0.776	0.91	0.936	0.786	0.887
	sat2	0.895	0.801				
	sat3	0.887	0.787				
	sat4	0.884	0.781				

Table 5-13. Reliability and validity criteria of outer model¹³⁹

¹³⁹ Source: Author

Indicator reliability: Indicator reliability is used to test the reliability of each indicator in the form of a reflective measurement scale. According to Bagozzi et al. (1994), the indicator reliability loading should be higher than 0.4 (BAGOZZI and Baumgartner 1994). The values of the surveyed indicators range from 0.615 to 0.882, revealing that all the indicators are reliable in the reflective construct.

Internal reliability: There are two measures for estimating reliability: Rho_A and composite reliability (CR). Rho_A is the squared correlation of the PLS construct score with the (unknown) true construct score (Henseler, Hubona, and Ray 2017). Composite reliability is obtained by combining all the true score variances and covariances in the composite of indicator variables related to constructs, and then dividing this sum by the total variance in the composite (Şimşek and Tekeli 2015). The literature suggests that both measures should be larger than 0.7 (Chin 2003). With values ranging from 0.8 to 0.938 (rho_A) and 0.882 to 0.951 (CR), the reliability of each construct is statistically proven.

Convergent validity: The AVE is a dominant measurement applied to assess the convergent validity. An AVE of 0.5 or higher is regarded as acceptable (Lee and Che 2013). According to the test results, the AVE of each latent variable ranges from 0.658 to 0.83. This confirms that the convergent validity is acceptable in the model.

Discriminant validity: This measure is often assessed by a construct, its indicators distinct from another construct, and its indicators in the outer model (Lee and Che 2013). For well-established discriminant validity, the value (square root of AVE) should be higher than the construct's highest correlation with any other latent construct, which is known as the Fornell-Lacker criterion (Fornell and Larcker 1981). To detect whether the discriminant validity is good in this study, the correlations of latent variables are listed in Table 5-14 in a comparison with the value of the square root of AVE. As shown in table 5-14, the square roots of AVE of all reflective latent variables remain the highest in both the row and the column of the table. Thus, the results support the establishment of discriminant validity in the outer model.

	Advertisement	Publicity	SPP	UPBS	Adoption	Awareness	Ease of use	Intention	Satisfaction	Usefulness
Advertisement	0.857									
Publicity	0.596	0.875								
SPP	0.58	0.549	0.811							
UPBS	0.699	0.469	0.581	0.845						
Adoption	0.574	0.54	0.464	0.448	0.911					
Awareness	0.568	0.55	0.424	0.411	0.847	0.909				
Ease of use	0.583	0.481	0.58	0.616	0.503	0.449	0.865			
Intention	0.596	0.512	0.59	0.582	0.52	0.472	0.715	0.858		
Satisfaction	0.578	0.467	0.522	0.55	0.511	0.514	0.634	0.688	0.887	
Usefulness	0.595	0.48	0.646	0.64	0.482	0.45	0.721	0.692	0.623	0.865

Table 5-14. Discriminant validity test with Fomell-Lacker criterion¹⁴⁰

6.3 The assessment of the inner model

To estimate the effect of the inner model, the following criteria were adopted: the path coefficient's significance (T-statistics), coefficient of determination (R-Square), and effective size (F Square).

To assess the direction and significance of the path coefficient of the inner model, the bootstrapping method was applied with a suggestion of 5,000 samples. As previously mentioned, critical t-values for a two-tailed test are 1.65 (significance level = 10%), 1.96 (significance level = 5%), and 2.58 (significance level = 1%) (Hair, Ringle, and Sarstedt 2011). The smallest T value is 3.456 for the path 'awareness to intention'. Therefore, all the hypothesised paths in the inner model are statistically significant at the 1% level.

¹⁴⁰ Source: Author

Path coefficients	T-statistics
promotion -> awareness	19.541
promotion -> easeofuse	21.769
promotion -> usefulness	25.81
advertisement -> promotion	30.634
publicity -> promotion	29.176
SPP -> promotion	29.271
UPBS-> promotion	23.951
adoption -> satisfaction	13.618
awareness -> adoption	33.511
awareness -> intention	3.456
easeofuse -> intention	7.825
intention -> adoption	4.968
usefulness -> intention	6.419

Table 5-15. T-statistics for the inner model¹⁴¹

R square represents the proportion of the variance in the dependent variable that is predictable from the independent variable (StatTrek 2017). This index was used to test the explanatory power of endogenous latent variables in the structure model. According to Chin (1998), the effect can be considered substantial, moderate, or weak if R-square is around 0.67, 0.33, or 0.19, respectively (Chin 2003). As shown in table 5-16, the latent variable 'adoption' is considered to have a large effect, while 'satisfaction' has a small effect with an R-square value of 0.260. The effects of the rest of the variables are medium.

Construct	R square (>0.19)	Explanatory power
Adoption	0.736	Large
Awareness	0.359	Medium
Ease of use	0.461	Medium
Intention	0.590	Medium
Satisfaction	0.260	Small
Usefulness	0.500	Medium

Table 5-16. R-square of endogenous latent variables¹⁴²

Though T-statistics proved the significance of each path in the structural model, it is reasonable to want to know how substantial the significant effects are. F square is a

¹⁴¹ Source: Author

¹⁴² Source: Author

measurement to assess the effect size of every hypothesised path. According to Cohen (1988), F values higher than 0.02, 0.15, and 0.35 represent small, medium, and large effect sizes, respectively (Cohen 1988). Based on the results presented in table 5-17 below, three paths have small effects: ‘awareness to intention’, ‘usefulness to intention’, and ‘intention to adoption’. This result suggests that all three perception factors have a comparatively minor effect on citizens’ intention to use the e-government services, though the impacts are significant. Except for ‘easeofuse to intention’, the remaining causal paths have large effects.

Path	F square (>0.02)	Effect size
publicity->promotion	14.213	Large
advertisement->promotion	12.640	Large
UPBS->promotion	7.564	Large
SPP->promotion	12.513	Large
promotion->awareness	0.561	Large
promotion->usefulness	0.999	Large
promotion->easeofuse	0.854	Large
awareness->intention	0.035	Small
usefulness->intention	0.125	Small
easeofuse->intention	0.192	Medium
intention->adoption	0.070	Small
awareness->adoption	1.763	Large
adoption->satisfaction	0.351	Large

Table 5-17. F square and effect size of hypothetical paths¹⁴³

6.4 Hypothesis testing

The hypotheses were statistically tested using PLS-SEM. Both the measurement model of e-government promotion and the structure model of promotion’s impacts on citizens’ behaviours towards e-government services were evaluated using a series of evaluation criteria. This section reviews the hypothesis testing and reports the result of the PLS-SEM analysis.

As shown in previous figure 5-1, the full proposed model includes both measurement and structural model. The measurement model in orange colour is a second-order formative construct with four first-order reflective factors. This model aims to propose a composite

¹⁴³ Source: Author

measure of e-government promotion that including all kinds of promotional activities government conducted by government side. After tests of EFA and PLS-SEM, the measurement structure of e-government promotion is established as shown in figure 5-14. The structure model tested by PLS-SEM is designed to estimate the influences of e-government promotional activities on citizens' behaviors towards e-services. As there are five behavioural factors are being observed under the impacts of promotion, each path in the model in figure 5-15 represents one hypothetical relationship that are mentioned in table 5-18.

As a second-order formative factor with four first-order reflective scales, e-government promotion is designed as a comprehensive measurement to describe the government's activities in promoting e-government services to citizens. Four types of promotional activities – publicity, government advertisement, usage promotion by SNS, and staff personal persuading – with 15 final items were proven to form the construct of promotion. One item, guidance in SNS, was removed due to the low factor-loading in the UPBS factor. On the other hand, with significant T values and large effect sizes for all four activities (Publicity->Promotion; Advertisement->Promotion; UPBS->Promotion; SPP->Promotion), the measurement structure of e-government promotion is statistically justified. Therefore, H1 is supported: 'The four promotional activities of publicity, advertisement, WeChat and Weibo usage promotion, and staff personal persuading compose the structure of promotion in the context of local Chinese e-government.' Table 5-14 summarises the output of the e-government promotion formative measurement, including significance level.

In the structure model estimating the impacts of e-government promotion on citizens' behaviours towards e-services, nine causal paths were hypothesised. Firstly, promotion is proven to have direct effects on citizens' awareness, PEOU, and PU of e-services. The impact on PU is the largest with a T value of 25.81, followed by the impacts on PEOU (21.769) and awareness (19.541). The second stage discussed the influence of three perceptions on citizens' intention to use e-services. All three perception-related factors are justified to influence intention with a comparatively small effect size. Subsequently, as suggested by many previous studies, intention is verified to be positively associated with citizens' actual adoption, with a T value of 4.968. However, the assumed path from awareness to adoption has the largest effect, with a T value of 33.511. This result suggests that awareness is a seminal factor in determining

citizens' actual usage of e-government services. The significant path also reveals that even without an increase of intention, citizens will still adopt e-government applications as long as they become more familiar with the services. Thus, the fundamental importance of awareness is well attested in this analysis. Finally, citizens' satisfaction is proven to be positively influenced by actual adoption, with a large effect size. The output of all the hypothetical paths is presented in figure 5-15, along with the significance level.

In sum, all the research hypotheses are statistically supported by the PLS-SEM data, as shown in table 5-18. The measurement structure and impacts of e-government promotion are confirmed in the context of the local e-government of a Chinese municipality.

Research hypotheses		Hypothesised direction	Findings
H1	advertisement -> promotion	+	Significantly supported
	publicity -> promotion		
	UPBS-> promotion		
	SPP -> promotion		
H2a	promotion -> awareness	+	Significantly supported
H2b	promotion -> easeofuse	+	Significantly supported
	promotion -> usefulness		
	easeofuse -> adoption		
	usefulness-> adoption		
H3a	awareness -> intention	+	Significantly supported
H3b	awareness -> adoption	+	Significantly supported
H4	intention -> adoption	+	Significantly supported
H5	adoption -> satisfaction	+	Significantly supported

Table 5-18. Hypothesis testing¹⁴⁴

¹⁴⁴ Source: Author

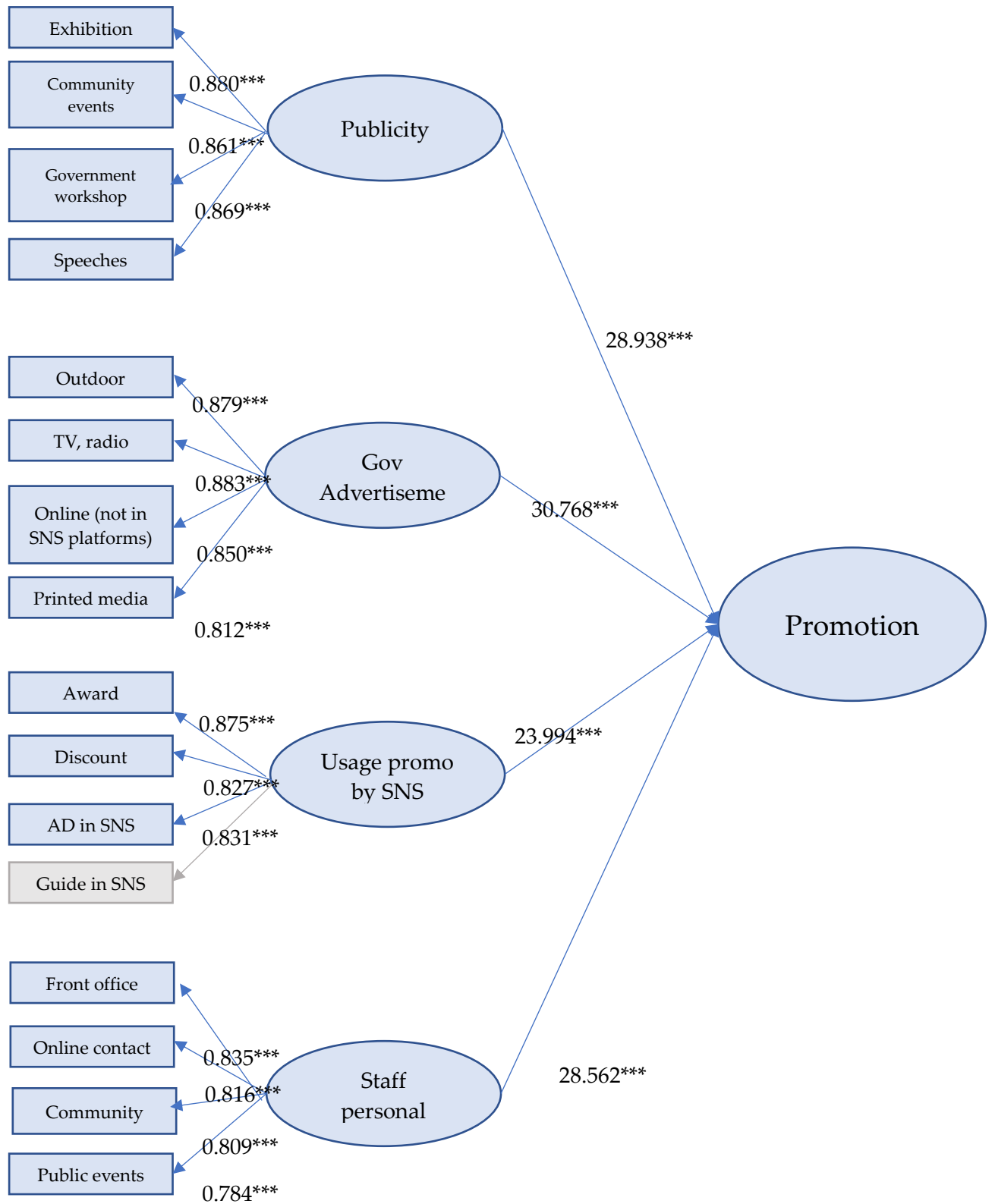


Figure 5-14. The output of the measurement model of e-government promotion¹⁴⁵

¹⁴⁵ Source: Author

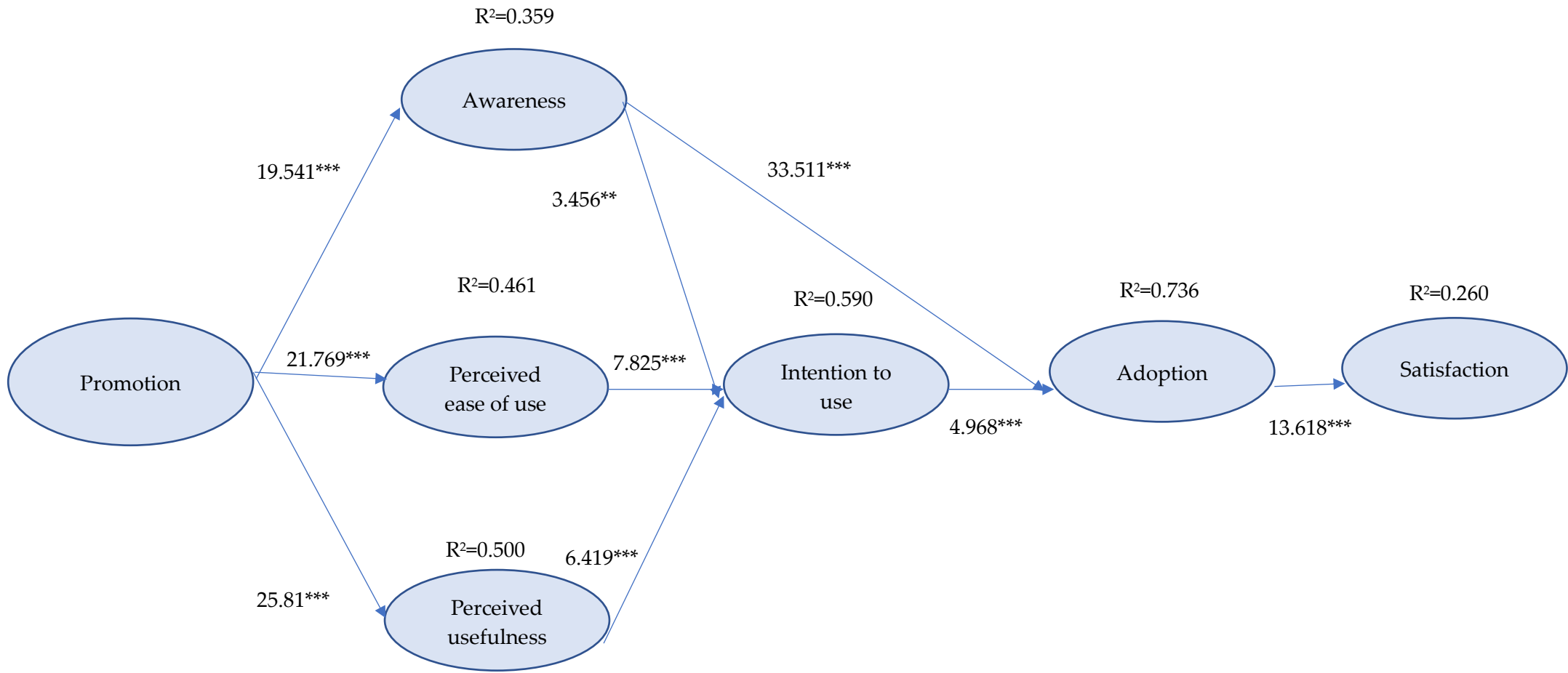


Figure 5-15. The output of the structure model of impacts of e-government promotion¹⁴⁶

¹⁴⁶ Source: Author

Chapter 6 Discussion and Conclusion

1. Answering the research questions

This study focused on one phenomenon of e-government practice: governments' promotion of e-services to citizens, especially in local administration. To better understand this topic, three research questions were established: (1) What are the goals of governments' promotional activities to citizens in the practice of e-government? (2) What kinds of promotional activities has e-government adopted in practice? (3) How do promotional activities affect citizens' behaviours towards e-government services? To answer these questions, an exploratory design of mixed research methods was adopted. Firstly, a pilot survey and in-depth interviews served as qualitative research tools in phase 1 to establish the structure of the conceptual model using the generated thematic instruments. Secondly, EFA and PLS-SEM were applied as quantitative tools in phase 2 to measure and evaluate the proposed model for construct validity and reliability. Hence, based on the theoretical framework of Chapter 2 and the analysis results of Chapters 4 and 5, the answers to the research questions are presented below.

1.1 E-government promotional activities in reality

To explore the existence of e-government promotion in the real world, research questions 1 and 2 concerned the objectives and inner composition of promotion. The literature review first helped to propose the potential goal of e-government promotion as influencing citizens' behaviours towards e-services. Using public marketing theory, several promotional activities were considered to be candidate factors of promotion structure. Next, in the qualitative analysis in Chapter 4, the answers of the experts and government officers served to identify the two essential dimensions of the e-government promotion model: first, the objectives of promotion are citizens' awareness, intention to use, actual adoption, and satisfaction; and second, the promotional activities (publicity, advertisement, usage promotion by SNS, and staff personal persuading) are the underlying measurements of promotion. Finally, quantitative analyses (EFA and PLS-SEM) in Chapter 5 justified the proposed model with significant results from the empirical data. As shown in figure 6-1, hypothesis 1 was

statistically supported: ‘The four promotional activities of publicity advertisement, usage promotion by SNS, and staff personal persuading compose the structure of promotion in the context of local Chinese e-government.’ ‘The guide in SNS’ was deleted because of its low factor-loading in its contribution to ‘usage promotion by SNS’. The rest of the indicators were found to measure the level of e-government promotion.

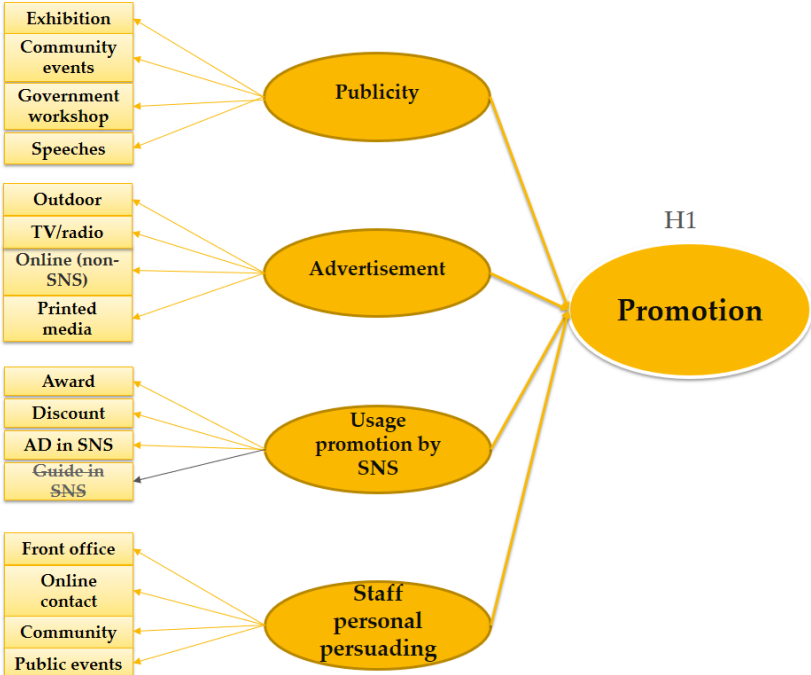


Figure 6-1. Hypothetical measurement of promotion verified by EFA and PLS-SEM¹⁴⁷

1.2 How e-government promotional activities influence citizens’ behaviours towards e-services

After confirming the input (activities) and output (objectives) of e-government promotion, it was necessary to clarify the causal paths between these two dimensions. Besides awareness, intention to use, actual adoption, and satisfaction, two perception-related factors were introduced into the structure model: PEOU and PU. These two variables were hypothesised to be the determinants of intention based on suggestions from previous studies. On the other hand, intention to use also serves as the mediation factor of actual adoption. Furthermore,

¹⁴⁷ Source: Author

awareness is assumed to influence actual adoption in both direct and indirect ways. After citizens use e-government services, their satisfaction level will increase with the increased adoption rate. PLS-SEM was used to test the significance and validity of all hypothetical paths. As shown in figure 6-2, the analysis justified four layers of impact routes. The first layer comprises the direct influences of e-government promotion on citizens' perception. As supposed in H2a, H2b, and H2c, promotional activities contribute to the increase in citizens' awareness, PEOU, and PU of local e-services. In the second layer, citizens' awareness and perceptions of e-government (ease of use and usefulness) are positively associated with citizens' intention to use local e-services. Subsequently, citizens' actual adoption is the affected factor in the third layer; both awareness and intention are found to have positive impacts on adoption. The largest effect size and the path loading of 'awareness to adoption' demonstrate that awareness is a crucial determinant of adoption, which means that as citizens become more familiar with e-government, they tend to use e-services more frequently, even without an increase in behavioural intention. In the last phase, citizens' actual adoption is proven to have a positive influence on the level of satisfaction. Thus, the nine hypothesised paths are statistically confirmed and significant.

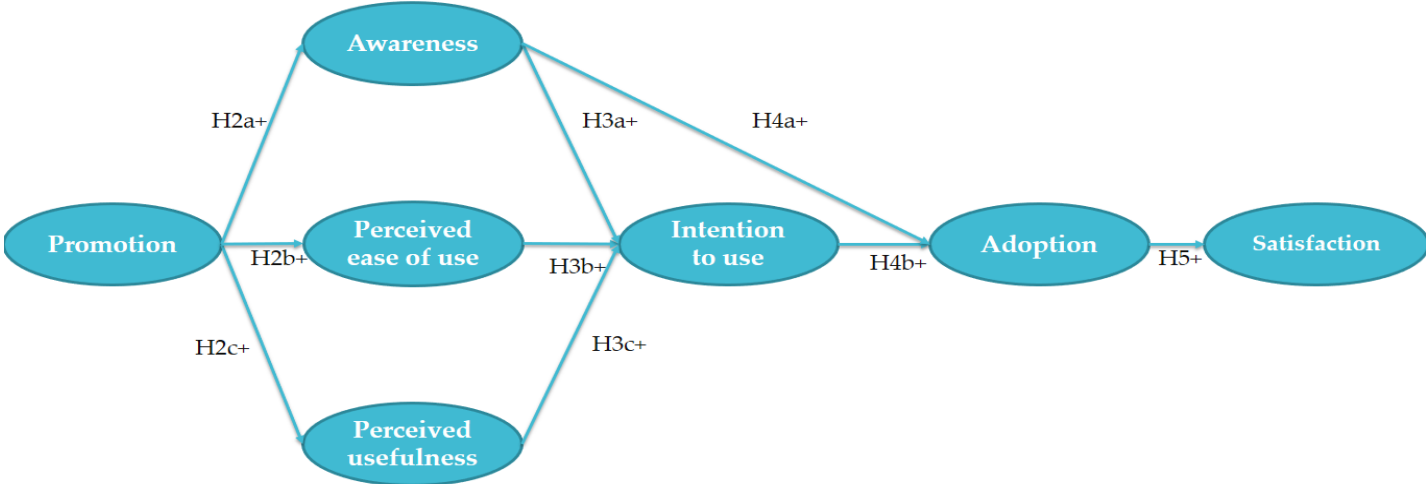


Figure 6-2. Hypothetical paths in the structure model verified by PLS-SEM¹⁴⁸

¹⁴⁸ Source: Author

2. Research Outcomes

This study aimed to identify operation rules of e-government promotion. By first examining promotion in marketing theory and citizens' behaviours in e-government studies, the research established a theoretical basis for combining these two dimensions. The study also examined governments' actual efforts to promote e-government services to citizens. Moreover, the hypothetical model of e-government promotion was evaluated from the perspective of local citizens. Benefiting from existing literature and practical fact-checking, a theoretical framework was established and subsequently verified using a large sample. All in all, the research results contribute to both the theoretical and the practical world.

2.1 Theoretical Contribution

The focus of the research contribution is on e-government promotion, including the measurement scale and impact paths. Previous studies observed several empirical cases of how government tried to raise citizens' awareness and adoption by conducting promotional activities from different countries. From the prospective of public promotion strategy, such activities may be organized under the rationale of promotion mix. This research firstly provides an opportunity to foster a theoretical model that systematically measuring a government's performance on e-government promotion.

On the other hand, it is raised by literature view that the potential connection between government's promotional objectives in G2C area and citizens' behaviors towards e-service. Previous studies focused a lot on figuring cognitive factors and their impacts on individual's behavioral action borrowed from technology acceptance models in information system, as well as citizens' awareness in e-government research. However, a comprehensive model integrating all these behavioral variables and their relationship is lacked. This research takes into consideration both sides to propose a sophisticated model of e-government promotion.

2.1.1 The measurement model of e-government promotion

The proposed measurement model of e-government promotion explores what kind of activities are employed by virtue of public promotion mix. According to Titman (1995), four types of promotion as publicity (public relations), advertising, personal selling and sales

promotion are listed as main dimensions being utilized in public sector (Titman 1995). Given that each kind promotion has a variety of vehicles and only few references suggest what vehicles are available for e-government promotion, this research conducted in-depth interviews with e-government officers from three regions advanced in e-government development and mainland china, to fact-check which promotional activities are employed. In part one group, all the three governments (Taiwan, Macau and Hong Kong) identified advertisement, publicity and usage promotion as shown in table 4-10. Considering Staff personal persuading are selected by two governments, it was kept as a potential dimension for justification in the case of mainland china. Next, e-government officers from mainland china helped identifying the objectives and types of promotion in the context of Chinese local e-government. Advertisement, publicity, personal persuading and usage promotion by SNS are identified to raise citizens' awareness, adoption and satisfaction. This e-government structure was statistically proved to be valid to measure e-government promotion with a high-order formative construct, certified in Chongqing e-government environment.

2.1.2 Role of e-government promotion activities on citizens's behaviours

2.1.2.1 Promotion and citizens' awareness

A fundamental goal of government's promotional activities is to strengthen the awareness of e-government services among citizens. As introduced in Chapter 2, some governments, such as in the UK, Singapore, and Dubai, have clearly expressed their concerns about raising citizens' awareness of specific e-services by conducting different kinds of promotional activities, including outdoor and radio advertisements, among others (Cross 2006; Chan, Lau, and Pan 2008; Sethi and Sethi 2008). During the in-depth interviews with government officers from Taiwan, Macau, Hong Kong, and mainland China, all respondents agreed that they see citizens' awareness as the first priority of their promotion activities, especially in the early stage of launching a new e-service application. As many previous studies suggest, awareness of e-services is one of the basic objectives for e-service adoption, simply because citizens cannot use it if they do not know it exists. No matter how useful a website is, or how well designed and accessible it is, if people do not know it is there and what it contains, then they will not use the e-channel route to the delivery of a service (Gunter and Mellor 2006; Ward, Connolly, and Hackney 2011). Awareness has also been reported to be positively associated with citizens'

attitude (willingness or intention to use) and actual adoption of e-government services (Sipior, Ward, and Connolly 2011; Charbaji and Mikdashi 2003; Shareef et al. 2011). Thus, awareness is crucial due to its decisive influence on citizens' other behavioural factors.

However, though many studies have emphasised the impacts of awareness on other behaviours, few have discussed how governments can affect the level of citizens' awareness of e-government service. As previously mentioned, governments have already acknowledged that increasing citizens' awareness of e-government is a fundamental goal when they decide to conduct promotion. Therefore, the relationship between this practical activity and objective needs to be observed. The present study has contributed to the confirmation of the promotion-awareness relation by utilising a large sample to test citizens' responses. In the PLS-SEM, a path coefficient with a T value of 19.541 at the 0.01 significance level affirmed the positive influence of e-government promotion on citizens' awareness of e-services.

2.1.2.2 Promotion and citizens' perceived ease of use, perceived usefulness, and intention to use

Citizens' PEOU and PU are the two widely studied perception-related factors in the technology acceptance model (TAM). They are said to be the determinants of attitude, as well as individual's behavioural intention to use new technology (Davis 1989). Since the introduction of technology acceptance and behavioural action models into the research field of e-government, these two factors have frequently been studied because of their decisive impacts on individuals' behavioural intention to use e-government, as these e-services are considered to be a type of new technology. PEOU and PU perform especially well in explaining citizens' acceptance of G2C service platforms. Once citizens perceive the ease of use and usefulness of an e-service, they may be more willing to adopt such a service. As the intention grows, more actual adoption is eventually expected.

The in-depth interviews with government officers revealed that citizens' intention to use e-services is less noticed by government sectors. It was not recognised by the respondents of Macau, Hong Kong, or mainland China, and was given the lowest priority compared to awareness, actual adoption, and satisfaction by the Taiwanese government. It can be speculated that the reason for this is that intention to use is not as visible as other aims for governments to measure. It is a more academic factor than a realistic objective, and

governments lack guidance on how to work on it. In fact, when the interviewees mentioned their promotional activities, increasing citizens' intention was naturally talked about as a goal of promotion. As a hidden factor that may influence citizens' behaviour, intention to use was hypothesised to be firstly affected by PEOU, PU, and awareness; and intention was also assumed to be positively associated with citizens' actual adoption, as previous studies have suggested.

In the TAM, PU and PEOU are determined by external variables. In this study, government's promotion of e-services was presumed to serve as the external variable that could directly increase citizens' PU and PEOU of e-government. As governments are devoted to promoting the convenience and advantage of e-services to the public, citizens may receive the message to perceive increased ease of use and usefulness of such services. These two factors are expected to explain how governments' promotion function affects citizens' perception and behaviour.

The result of the PLS-SEM confirmed the direct impacts of promotion of the two perception-related factors, with a T value of 21.769 for the 'promotion to perceived ease of use' path, and a T value of 25.81 for the 'promotion to perceived usefulness' path. The F square values of these paths, 0.854 and 0.999, prove that the effects of promotion on citizens' PU and PEOU of e-services are large enough to be identified. The impact of awareness on intention is also significant with a T value of 3.456, though the effect size is small compared to the other paths.

2.1.2.3 Awareness, intention to use, actual adoption, and satisfaction

The ultimate goal of the government sector is citizens' actual adoption of e-government services. Most technology acceptance and behavioural action models choose individuals' actual use of a new system/technology as the dependent variable at the ultimate stage. For example, the 'actual system use' in the TAM and the 'utilisation of PCs' in the model of PC utilisation (MPCU) are emphatically analysed as the interpreted variables to be determined by various factors (Davis 1985; Thompson, Higgins, and Howell 1991). Another variable used to assess the continual usage of e-government services and the success or failure of e-government projects is satisfaction (Alawneh, Al-Refai, and Batiha 2013). Some scholars have criticised the weakness of the technology acceptance and behavioural action models in predicting citizens'

behaviour after acceptance, and have argued that satisfaction deserves more attention (Zhang 2013a). Since citizens' satisfaction has gradually come to be regarded as a crucial measurement in a performance-based and citizen-centred bureaucracy (Jaeger and Bertot 2010; Moynihan 2010), there is naturally a growing discussion about citizens' satisfaction in the practice of e-government as well. For instance, a number of researchers have claimed that the frequent usage of e-services leads to increased citizen satisfaction (Colesca and Dobrica 2008; Verdegem and Verleye 2009; Zhang 2013a). Moreover, some scholars have theorised that satisfaction affects not only adoption but also citizen trust and confidence in the government; this has been reported in cases in several nations (Welch, Hinnant, and Moon 2004). Thus, a hypothetical path between adoption and satisfaction is established in the proposed model.

In the fact-checking phase with government officers, both adoption and satisfaction were identified by these practitioners as the goals of e-government promotion. However, satisfaction with e-services remains a sophisticated issue because it can easily be linked to the satisfaction with the government and the political situation. Hence, all interviewees emphasised how they weighed citizens' satisfaction and endeavoured to improve e-service delivery to address citizens' feedback. Based on the literature and the results of the in-depth interviews, citizens' actual adoption is set as the interpreted variable determined by awareness and intention to use, and positively associated with citizens' satisfaction with e-services.

The results of the PLS-SEM helped to justify the hypothetical paths mentioned above: the paths of 'awareness to adoption' and 'intention to adoption' are significantly supported with T values of 33.511 and 4.968, respectively. However, the effect sizes of these two paths are different: awareness has a large effect on adoption with an F square value of 1.763, while the influence of intention on adoption is small, with an F square of 0.070. This result indicates the importance of awareness in determining citizens' decision to use e-government services. Lastly, citizens' satisfaction level is proven to be positively impacted by actual adoption of e-services, with a large effect size and a T value of 0.351. In general, citizens' adoption and satisfaction are the ultimate goals of e-government promotion, and the causal paths go through the intermediate factors of awareness and intention to use.

2.2 Practical Implications

2.2.1 The importance of e-government promotion

As a proactive approach to communicate with citizens, government's promotion on e-government service creates more opportunities for public to be aware of the e-channels. The result of chapter 5 demonstrate the effects of promotion on citizens' perceptual and behavioral factors. It is reasonable to consider that as more and high-quality promotional activities are conducted, the closer to attract citizens in e-service just similar to the way how business sector approaches to its customers. E-government promotion, serves as an external variable, is indicated to be a significant determinant of citizens' awareness, perceived usefulness and ease of use—which are closely related to citizens' intention and actual adoption, as well as the indirect direction to satisfaction. Therefore, promotion should be valued and carefully planned if one government is struggling to raise e-service penetration rate.

The result of in-depth interviews part one in advanced e-government regions ulteriorly confirmed the importance of e-government promotion. As discussed in previous literature, the positive relationship between education level/IT literacy level and e-government adoption is suggested by a number of researches (Chatfield and Alhujran 2009; Taipale 2013; Zhao, Collier, and Deng 2014). A region with comparatively well-prepared ICT infrastructure and a high literacy of population is believed to have more citizens adopting e-government services. In the UN e-government survey, telecom infrastructure index (TII) and human capital index (HCI) have been regarded as two important components of the three main indicators in assessing nation's development of e-government all along. A government in an area such as the one described above is supposed to face less pressure to promote e-government services, as citizens should proactively seek e-channels themselves to find the government. This assumption is precisely able to be verified in the context of interviewed regions as Taiwan, Macau and Hong Kong as they are recognized as comparatively developed regions in ICT and human capital development by global rankings. However, respondents from these governments advocated the necessity of promotion, such as in the situations of launching new service (Hong Kong) or reminding citizens of existing application (Taiwan). The answer from Hong Kong respondent about utilizing social media campaign to reach to a wider audience demonstrates how promotion can contribute to communication with diverse citizen groups. The cases of e-government promotion in above regions indicate the necessity of e-government

promotion, in both regions with high or low level of ICT development.

2.2.2 SNS utilization in Chinese local e-government service

With a special emphasis on China, this study focused on the latest trend of Chinese local e-government. Based on the 'Internet Plus' strategy, a special collaboration is happened between local governments and private internet enterprises: government services are being imported into the commercial SNS platforms known as WeChat and Weibo. Private sectors may have more experience than public organisations in dealing with customers via digital channels, which gives governments a chance to learn more from corporations in marketing to customers – in this case, the citizens. This ongoing development of local e-government services in China based on public-private collaboration serves not only as a prime case to analyse the promotion of e-government, but also as a probe into the latest development of e-services with SNS utilisation.

The proposed measurement model of e-government promotion includes one dimension named 'usage promotion by SNS' to express what SNS platforms have contributed to the promotion of e-services. The original version of usage promotion in marketing theory describes activities that increase social demand. In the context of e-government, usage promotion refers to the activities that stimulate citizens' demand for e-services including awards, discounts, etc. The in-depth interviews with Chinese local government officers revealed that WeChat and Weibo have provided these kinds of promotional activities to attract citizens to adopt their e-service platforms. For example, WeChat and Weibo Government have undertaken the task of usage promotion by offering benefits such as discounts and rewards. The case of the official WeChat account of 'Chongqing Police Exit-Entry Administration', owned by Chongqing PSB, can explain how citizens can be motivated to adopt WeChat Government services. A citizen who chooses to make a reservation on this account to apply for a passport or visa for Hong Kong, Macau, or Taiwan can obtain the document in five days instead of the 10 days it takes with the normal method. The application can also receive real-time information about the progress and result, and the e-payment system on WeChat enables citizens to finish the transaction smoothly. According to the interviewed Chinese local government officer, WeChat and Weibo Government are helping both the government and citizens in the interaction process with unprecedentedly effective and efficient service delivery.

Therefore, the factor of 'usage promotion by SNS' (UPBS) has absorbed the characteristics of Chinese e-government service with the use of SNS in public services.

The results of the EFA firstly revealed the underlying structure of e-government promotion by excluding an unqualified item: 'guide in SNS', an item beneath UPBS, was deleted because of its low factor-loading. In the confirmative phase of the PLS-SEM, the UPBS dimension was justified to successfully measure the level of e-government promotion with three other factors. Three items significantly form the first layer of the reflective measurement of UPBS: award, discount, and advertisement in SNS, with factor loadings of 0.875, 0.827, and 0.831, respectively, and with acceptable indexes on composite reliability and AVE. In the second layer of the formative measurement of promotion, UPBS significantly contributes with a T value of 23.951. This finding confirms the efforts made by WeChat and Weibo to influence citizens' behavioural actions towards e-services by providing different advantages.

In the case study of the local Chongqing e-government, the awareness and adoption rates of each kind of e-channel were reported. As shown in figure 6-3, WeChat Government in particular has gained the most attention and usage compared to the other three applications. However, the official government website still attracts a certain number of users; considering that the other three channels are mobile, it is reasonable that the official portal appeals to citizens who prefer to use computers. Nevertheless, in the competition among mobile-oriented applications, WeChat and Weibo are clearly dominant compared to the government's official app. This may be because the quality of the e-service platforms provided by these SNS companies is much greater than that of the government's official app, as the private sector has abundant experience in the improvement of service and communication with customers (citizens). Moreover, WeChat and Weibo Government also benefit from their high penetration rates in Chinese society. For instance, at the end of 2016 WeChat and Weibo had around 800 million and 400 million monthly active users (MAU), respectively (QuestMobile 2017). It seems like that users of these SNS naturally choose their platforms to interact with the government instead of expending energy to adopt new applications provided by government. From this point of view, WeChat and Weibo Government can be regarded as contributors to increasing e-government awareness and adoption. Moreover, the government sector can avoid redundant investment in e-government projects and still enjoy the promotion achieved by the private sector.

In summary, the use of SNS in e-service delivery has successfully promoted e-government to citizens, at least in the observed case of a Chinese local municipality. As a specific example, this phenomenon in China can enlighten other regions in their efforts to deliver e-services to citizens, especially in the current digital era with an increasing penetration rate of mobile and social media.

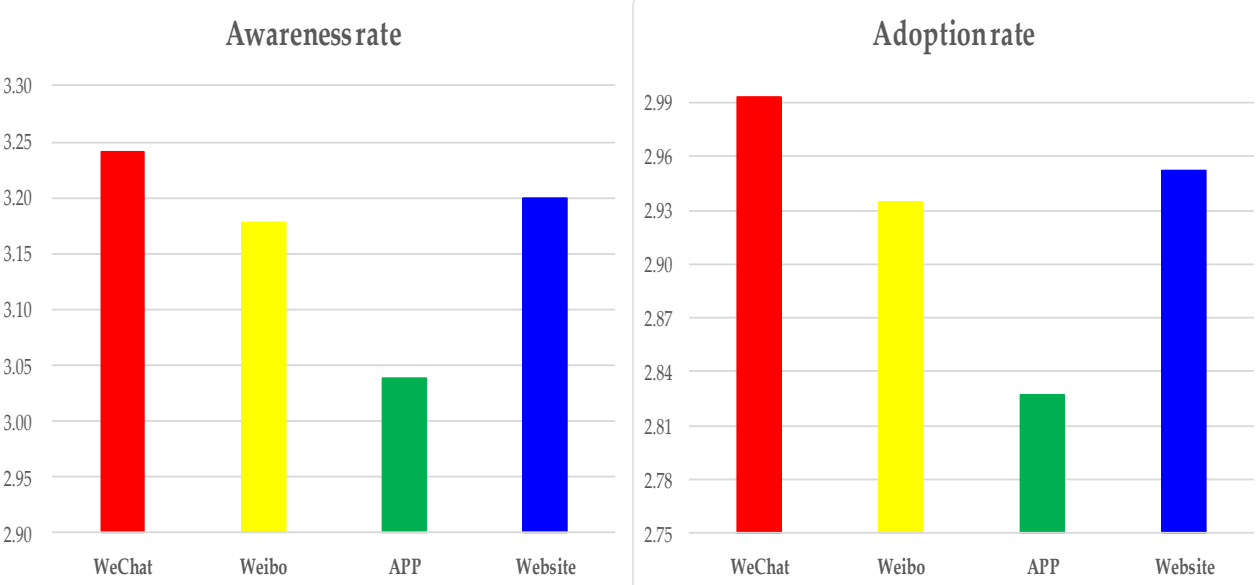


Figure 6-3. Awareness and adoption rates of four local e-government service applications in Chongqing¹⁴⁹

3. Recommendations for Chinese government

3.1 Recommendations for e-government

Based on an analysis of the situation and evaluation of e-government promotion conditions in china above, this research has shown the existence and importance of promotion in Chinese administration. This research also glances through how do relatively advanced ICT regions deal with promotion issues in G2C area, to provide a reference for china. There are several recommendations for the development of e-government promotion in Chinese society in the light of the findings of this research:

¹⁴⁹ Source: Author

First, although central government is not responsible for operating G2C service delivery in china, the power of central government strategy in guiding local administration should not be ignored. The latest economic and ICT national plan “Internet Plus” which boosts social development by utilizing information trend is a good example to understand this situation.

“Internet + Government” section of the plan published in 2016 has facilitated the revolution of G2C e-service delivery in local society, as well as government’s enthusiasm in reforming existing e-channels to a more innovative and productive level. This phenomenon attributes to the political situation of modern china: a clearer responsibility demarcation of central-local authorities over public-services by fiscal decentralization (Li 2010), with a high level of political centralization maintained (Zhang 2006). Though local governments nowadays are more flexible to conduct ICT projects for regional development, it is still a comparatively difficult task for changing political mechanism without central agreement. Given that e-government is a complex process involving not only technical aspects but also governance, its long-term development definitely requires political support from the central authority. Therefore, national strategy plays a decisive role in leading the direction of e-government progress, and this power should be valued.

Second, local government should maximize the utilization of regional resources to facilitate e-service delivery especially in G2C. As discussed in 4.1.3 of chapter 2, global ranking has evaluated china as a comparatively high decentralized nation who ranked at 21st in the world (Ivanyna and Shah 2012). Though the fiscal responsibility may cause relatively heavier burdens in the poor regions (Zhang 2006), it also motivates and enables government to create more local-oriented social projects. Regarding e-government service, some local authorities have actively initiated their own plans of e-platforms, such as the Citizen-Cloud Platform by municipal government of Shanghai or a provincial one-stop-portal aiming to integrate e-services of city-level administrations in Zhejiang Province as mentioned in 4.1 of chapter 4. On the other hand, IT giants located in different regions may provide potent help for local

administration in establishing a sophisticated e-platform. The case of a country's leading mobile-payment penetration in Shenzhen benefiting from Tencent company can show the power of business sector in social change. Therefore, local authority should make best effort to improve e-service delivery on account of its financial, technical and human resources. Multi-section collaboration is a useful way for triggering regional dynamism, not only in e-government, but also in other local affairs.

3.2 Recommendations for e-government promotion

As previous literature points out, public promotion exists everywhere that "all organizations do it whether they know it or not" (Kotler 1979). When government nowadays launches public e-service to citizens, the communication tool from marketing strategy can contribute to this interaction between supplier (government) and customer (citizen) as well. Since the impact of government promotion for digital service is not fully assessed (Fernández-i-Marín 2011), this research affords an observation of promotion's influence on local citizens. The results of chapter 5 suggests that as more and high-quality promotional activities are conducted, the closer to attract citizens in accessing e-platforms. In the case of local government in china, several specific recommendations that can be noted:

Firstly, local e-government promotion can achieve greater success with the assistance of local community. As discussed in section 4.2 of chapter 2, "xiaoqu" is the basic spatial unit of the new planning regime in urban china that relied on by Chongqing police posts in social management. This basic basic administrative-unit is able to reach the citizens directly instead of government bodies. In the case of Chongqing, the PSB unit would ask the community of local area to distribute the pamphlet and flier, as well as put up posters of introducing PSB's new launched e-services; meanwhile, the community could organize various social events anchored in each small district related to campaign of government's e-channels, as well as training citizens who have difficulty in digital issues. Further, local community offers its manpower to help government sector to reach citizens. For example, the volunteer would visit resident's home to teach aging people how to use the digital device to access to government. A volunteer team recruited from the residents ensures that local community is suitable to conduct personal persuading activity for e-government promotion. As the result of "source of

awareness” in section 4.2 of chapter 5 reveals, staff persuading is the second-commonest way for citizens to become aware of local e-government services in Chongqing. Considering the “population bonus” of china, it is one useful way to utilize the strength of local community to promote e-government service to wider audience.

Secondly, local government should take advantage of commercial e-channels in usage promotion of e-government. One difference of usage promotion between other regions and china discovered in chapter 4 is that, commercial platforms replace government to offer award/coupon/discount to citizens in Chinese e-government practice. The case of official account “Chongqing Police Exit-Entry Administration” owned by Chongqing PSB on WeChat platform explains that how citizens can be motivated to adopt the WeChat Government service. A citizen who chooses to make a reservation on this account to apply for a passport or visa for Hong Kong, Macau, or Taiwan can obtain the document in five days, compared to 10 days with the normal method. By applying via WeChat, individuals can also receive real-time information on the progress and result, and the e-payment system on WeChat also enables them to finish the transaction smoothly. As benefited from its incredibly high penetration rate and mature technology, WeChat is able to promote e-service to citizens in a closer and easier approach than government self-developed platform. It is not only an effective, but also a cost-saving means for local government to reach the goals of usage promotion, by making use of those commercial platforms.

3.3 Recommendations for WeChat and Weibo Government

The case of Chongqing local e-government reveals that WeChat and Weibo Government have obtained massive users compared with other applications. As illustrated in figure 6-3, in the competition among mobile-oriented applications, WeChat and Weibo show their obvious dominant positions than government’s official APP both in awareness and adoption rate. Nevertheless, there are some concerns should be noticed regarding these fast-growing e-services.

Firstly, it is necessary to issue related regulation on duty-allocation issue of WeChat and Weibo Government. Though mentioned by government officer in Chongqing PSB in section 4.2 of chapter 4 that, local government departments do not have to deal with SNS companies regarding e-government services at most of the time. the case of Weibo’s power over public

verification and information erasure indicates private sector may be automatically endowed with public authority. Along with the development of WeChat and Weibo Government, a series of clear boundary and limit need to be established to avoid disorder and power abuse in the delivery of local e-government service.

Secondly, a proper legal framework should be built to protect citizens' privacy during interaction with government in these commercial platforms. Previous study considers that in china -- a leading internet nation, the internet censorship is implemented thoroughly as well as a leading surveilled (DeLuca, Brunner, and Sun 2016). As mentioned in section 4.2 of chapter 4, the strict monitoring of every post and user on SNS platforms shown in a substantial number of cases undoubtedly reveals the intimate connection between the Chinese government and internet corporations. In this case, citizens' personal data is facing the danger of information disclosure to either public or private sector without individual's agreement. While those commercial platforms contribute to the wide spread of e-government service, legislation support should be provided as well to guarantee users' privacy right, especially in this digital era.

4. Limitations of the study

While this research has furthered previous studies on e-government promotion in some respects, the author also recognises the following limitations.

First, due to the practical limitation, there is a small sample size of 11 respondents in the in-depth interviews. A richer dataset could add more depth to the research topic, which should be considered in further study.

Second, though the measurement and structural models of e-government promotion are statistically supported, other kinds of promotional activities may exist in different regions. Considering the lack guidance for practitioners on how to apply marketing strategy in e-government, it is a comparatively difficult task to cover all the existing promotional activities in one unified model for every government. However, this study has attempted to observe e-government promotion and its effects on citizens' behaviours towards e-services. To help scholars and practitioners have a deeper understanding of the promotion of public services, more studies should be conducted in the future.

Third, due to that the R square of satisfaction is only 0.260 which indicates a small explanation power, besides the impact of actual adoption, some other factors may also affect citizens' satisfaction, such as the quality of service delivery and demographics. In the rationale of this research design, e-government promotion is considered to be the external variable in the TAM to determine PU and PEOU. However, some models such as the UTAUT suggest that demographic factors (gender, age, experience, etc.) are moderator variables affecting intention and adoption. Therefore, future work could examine the moderation effects of demographic factors on the path from promotion to users' behaviours.

Finally, as the sample was collected in Chongqing municipality, the explanatory power of the proposed model may be narrowed to that specific area. In particular, the model reflects a special case of utilising SNS (WeChat Government and Weibo Government) in the delivery of local e-services in China, which may differ from the situation in other nations. It also needs attention that due to the sample collection method which was described in section 3 of chapter 5, the result was closely related to the data under that background. The proposed model may be tested to not being the same as this research with disparate method of collecting samples. From another point of view, this study offers an observation of this public-private collaboration for e-government studies. Future work could examine cases of e-government promotion in various regions to determine more theoretical and practical implications regarding this topic.

5. Opportunities for future research

Governments' promotion of e-government indeed influences citizens' perception and behavioural actions towards e-services. As a government officer explained during an in-depth interview, 'We think that promotion of services is necessary to bring the available services to a wider audience.' No matter how well designed the e-service is, if it is not promoted then users will not be aware of it. As citizens' adoption is the lifeblood of most G2C e-services, governments need more guidance on how to promote or 'sell' their well-prepared 'product' to 'customers'. This use of public marketing strategy not only benefits e-government, but also public policy in general. Future studies could improve the understanding of the structure of e-government promotion by conducting more case studies from diverse administrations. In

addition, they could provide more cues to discover the potential impacts of promotion on citizens' other perception-related and behavioural factors, such as trust and other attitudes. As this perspective is lacking entirely in the relevant area, there is room for more studies to discover the underlying functions of promotion in e-government and other citizen-centred public policy.

Regarding the public-private collaboration in e-service delivery, WeChat and Weibo Government in China could certainly be interesting for future researchers to examine as a value case. Besides the efficiency and effectiveness of these internet giant companies in delivering public services to citizens, Chinese local governments have benefited greatly from this collaboration, instead of having to undertake the e-government tasks all by themselves. However, some critical issues regarding this type of e-service are also worth discussing. For instance, how do local governments guarantee the privacy and safety of personal data that private companies are handling? Do these SNS platforms have state power over public affairs? If not, where is the boundary between platform administrator and government officer? As the utilisation of SNS in public-sector services expands, more questions will be raised in both the theoretical and practical fields. Above all, the case of Chinese e-government service delivery by SNS clearly deserves further theoretical development and empirical testing.

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Appendix 1 Pilot Survey

I. How do you promote your e-service to citizens?

According to the NPM (New Public Management) theories, citizens are viewed as customers who should be served by public managers with good products (services). The spirit of NPM has facilitated citizen-centric trend which has been implied in e-service application. In e-Government area, governments also need to promote their e-services to citizens effectively and efficiently. Please answer the 2 questions below to help us understand e-Government Promotion operation in your nation.

1.1 What are the priorities of your (government's) objects in promoting e-Service? Rank the following goals on a scale of 1 to 6, and fill in the blank if you have more suggestions.

- | | |
|--|---|
| _____ Citizens' Intention to use e-Service | _____ Citizens' Satisfaction on e-Service |
| _____ Citizens' Awareness of e-Service | _____ Citizens' Usage on e-Service |
| _____ Other () | _____ Other() |

1.2 What types of ways do you (your government) choose to promote e-Service to citizens? Select all that apply and fill in the blank if you have any more suggestions.

_____ **Direct Marketing** (Government/Public agencies communicate directly to the citizens: mobile messaging, email, interactive citizen websites, online display ads, fliers, catalog distribution, promotional letters, and outdoor advertising,etc)

_____ **Advertising** (Use paid advertisement by third party : print ads, radio, television, signs, in-store displays, posters, mobile apps, motion pictures, web pages, banner ads, emails, etc.)

_____ **Mandatory Use** (Policy/Regulation to make a mandatory use of e-Service by citizens, etc.)

_____ **Publicity** (speeches, issue advertising, seminars, etc.)

_____ **Usage Promotion** (increase citizen demand, stimulate social demand or improve e-Service availability: contests, Service samples, exhibitions, etc.)

_____ **Personal Selling** (face to face/telephone persuading, trial using, etc.)

_____ **Organization Image Campaign** (Government/Public agencies present themselves to the public, etc.)

_____ **Other** ()

_____ **Other** ()

Appendix 2 Implementation List of In-depth Interviews

Organization	Interviewee	Implementation Time	Contact
Department of Information Management, National Development Council (NDC), Taiwan	Three experts including deputy director	July 28 th , 2016	Ms. Chuang mfchuang@ndc.gov.tw
Department of Electronic Government Affairs, the Directorate of Administration and Public Administration services (DAGE), Macau	Three experts including section chief	August 25 th , 2016	Mr. Leong calvinl@safp.gov.mo
Office of the Government Chief Information Officer (OGCIO), HongKong	One expert	August 31 st , 2016	Mr. Chong mkchong@ogcio.gov.hk
China Center for Information Industry Development (CCID), China	Two experts including deputy director	August 4 th , 2016	Mr. Liu liuwq@ccidgroup.com
Department of Publicity in Chongqing Public Security Bureau	Two experts including section chief	August 24 th , 2017	Ms. Yang Wing419083100@qq.com

Appendix 3 In-depth interview: Taiwan government

台灣國家發展委員會資訊管理處探索性調研詳細

Questions for interviewing Department of Information Management, National development Council (NDC), Taiwan

(1) 當政府設計或推出一項電子政府應用（或網站）時，是否會在發佈之前進行對於市民的使用/市場/背景類調查？

When government designs or publishes an e-Government application (or website), do you have background/marketing/usage investigations on citizens before released?

(2) 當政府設計或推出一項電子政府應用（或網站）后，是否會有相應推廣計劃來提高市民對於該網站或應用的了解？

After government designed or published an e-Government application (or website), do you have any activities or plans to increase citizens' awareness of the new application?

(3) 當政府設計或推出一項電子政府應用（或網站）后，是否會有相應推廣計劃來提供市民的使用率或者是滿意度？

After government designed or published an e-Government application (or website), do you have any activities or plans to raise the usage or satisfaction of citizens?

(4) 政府在計劃推出電子政府應用（或網站）時，主要投入在哪些方面？

When government plans to publish an e-Government application (or website), what are the main sections that you will invest in?

例如：

投入于服務開發（外包或自主研發，著重提高服務網站或應用的質量，開發其用戶體驗度，流暢度等）

E.g.: Invest into upgrading the service (create by itself or outsourcing; focus on raising the quality of service, etc.)

投入于市民（開展廣告宣傳，政府人員一對一宣傳，開展課程或教導市民使用等）

Invest into citizens (advertisement, face to face publicity, seminar and training course, etc.)

投入于政府部門（對政府人員的培訓，內部電子化改造等）

Invest into government agencies (training staffs, back office)

投入于其他

Invest into others

(5) 在政府推出電子政府應用（或網站）后，對市民的期待目標的優先順序是？

After government published an e-Government application (or website), what are the goals do you expect from citizens?

知曉度（awareness）想要使用的程度（intention to use）

使用率（usage）滿意度（satisfaction）其他Others（）

(6) 作為一個網絡普及較發達的地區，台灣在推行電子政府服務時是否不需要過多的宣傳就能達到較高的知曉度（awareness）？

As a comparatively high internet penetration area, is it true that Taiwan government do not need much promotion and get high awareness from citizens on the new e-Government application (or website)?

(7) 台灣政府在向市民推出電子政府應用（或網站）時，通常面臨的主要問題是什麼？

What are the main problems Taiwan governments facing when you publish e-Government application (or website) to citizens?

(8) 如有可能，請您談談在台灣，政府在推行電子政府服務時運用SNS的實例。

If possible, please talk about the cases when Taiwan government uses SNS to promote its e-Government application (or website) to citizens.

Appendix 4 In-depth interview: Macau government

澳門電子政務廳 e-Government Promotion 探索性調研問題 Questions for interviewing Department of Electronic Governance, SAEP, Macau

(1) 當政府設計或推出一項電子政府應用（或網站）時，是否會在發佈之前進行對於市民的使用/市場/背景類調查？

When government designs or publishes an e-Government application (or website), do you have background/marketing/usage investigations on citizens before released?

(2) 當政府設計或推出一項電子政府應用（或網站）后，是否會有相應推廣計劃來提高市民對於該網站或應用的了解？

After government designed or published an e-Government application (or website), do you have any activities or plans to increase citizens' awareness of the new application?

(3) 當政府設計或推出一項電子政府應用（或網站）后，是否會有相應推廣計劃來提供市民的使用率或者是滿意度？

After government designed or published an e-Government application (or website), do you have any activities or plans to raise the usage or satisfaction of citizens?

(4) 政府在計劃推出電子政府應用（或網站）時，主要投入在哪些方面？

When government plans to publish an e-Government application (or website), what are the main sections that you will invest in?

例如：

投入于服務開發（外包或自主研發，著重提高服務網站或應用的質量，開發其用戶體驗度，流暢度等）

E.g.: Invest into upgrading the service (create by itself or outsourcing; focus on raising the quality of service, etc.)

投入于市民（開展廣告宣傳，政府人員一對一宣傳，開展課程或教導市民使用等）

Invest into citizens (advertisement, face to face publicity, seminar and training course, etc.)

投入于政府部門（對政府人員的培訓，內部電子化改造等）

Invest into government agencies (training staffs, back office)

投入于其他

Invest into others

(5) 在政府推出電子政府應用（或網站）后，對市民的期待目標的優先順序是？

After government published an e-Government application (or website), what are the goals do you expect from citizens?

知曉度（awareness） 想要使用的程度（intention to use）

使用率（usage） 滿意度（satisfaction） 其他Others（）

(6) 作為一個網絡普及較發達的地區，澳門在推行電子政府服務時是否不需要過多的宣傳就能達到較高的知曉度（awareness）？

As a comparatively high internet penetration area, is it true that Macau government do not need much promotion and get high awareness from citizens on the new e-Government application (or website)?

(7) 澳門政府在向市民推出電子政府應用（或網站）時，通常面臨的主要問題是什麼？

What are the main problems Macau governments facing when you publish e-Government application (or website) to citizens?

(8) 如有可能，請您談談在澳門，政府在推行電子政府服務時運用SNS的實例。

If possible, please talk about the cases when Macau government uses SNS to promote its e-Government application (or website) to citizens.

Appendix 5 In-depth interview: Hong Kong government

香港政府資訊科技總監辦公室e-Government Promotion探索性調研問題 Questions for interviewing OGCIO, Hong Kong

(1) 當政府設計或推出一項電子政府應用（或網站）時，是否會在發佈之前進行對於市民的使用/市場/背景類調查？

When government designs or publishes an e-Government application (or website), do you have background/marketing/usage investigations on citizens before released?

(2) 當政府設計或推出一項電子政府應用（或網站）后，是否會有相應推廣計劃來提高市民對於該網站或應用的了解？

After government designed or published an e-Government application (or website), do you have any activities or plans to increase citizens' awareness of the new application?

(3) 當政府設計或推出一項電子政府應用（或網站）后，是否會有相應推廣計劃來提供市民的使用率或者是滿意度？

After government designed or published an e-Government application (or website), do you have any activities or plans to raise the usage or satisfaction of citizens?

(4) 政府在計劃推出電子政府應用（或網站）時，主要投入在哪些方面？

When government plans to publish an e-Government application (or website), what are the main sections that you will invest in?

例如：

投入于服務開發（外包或自主研發，著重提高服務網站或應用的質量，開發其用戶體驗度，流暢度等）

E.g.: Invest into upgrading the service (create by itself or outsourcing; focus on raising the quality of service, etc.)

投入于市民（開展廣告宣傳，政府人員一對一宣傳，開展課程或教導市民使用等）

Invest into citizens (advertisement, face to face publicity, seminar and training course, etc.)

投入于政府部門（對政府人員的培訓，內部電子化改造等）

Invest into government agencies (training staffs, back office)

投入于其他

Invest into others

(5) 在政府推出電子政府應用（或網站）后，對市民的期待目標的優先順序是？

After government published an e-Government application (or website), what are the goals do you expect from citizens?

知曉度（awareness） 想要使用的程度（intention to use）

使用率（usage） 滿意度（satisfaction） 其他Others（）

(6) 作為一個網絡普及較發達的地區，香港在推行電子政府服務時是否不需要過多的宣傳就能達到較高的知曉度（awareness）？

As a comparatively high internet penetration area, is it true that HK government do not need much promotion and get high awareness from citizens on the new e-Government application (or website)?

(7) 香港政府在向市民推出電子政府應用（或網站）時，通常面臨的主要問題是什麼？

What are the main problems HK governments facing when you publish e-Government application (or website) to citizens?

(8) 如有可能，請您談談在香港，政府在推行電子政府服務時運用SNS的實例。

If possible, please talk about the cases when HK government uses SNS to promote its e-Government application (or website) to citizens.

Appendix 6 In-depth interview: China central government

中国工业和信息化部电子信息发展研究院关于行销电子政务服务的问题调研 Questions for interviewing China Center for Information Industry Development (CCID), China

(1) 在电子政务的发展框架上，中央与地方政府是怎样的呢？

What is the framework for e-government services regarding central and local administration in China?

(2) 在面向市民的电子政务服务这一块，主要是哪一级政府负责？

Who are mainly responsible for G2C applications of e-government services?

(3) 在面向市民的电子政务服务的实践上，中央政府有没有推出一些方针（指南）给地方政府？

In the practice of G2C, do central government have any guidelines for local government to establish e-government services?

(4) 有面向市民的关于电子政务服务的背景/需求/满意度的调查吗？

Are there any background/user-needs/satisfaction surveys on citizens regarding e-government services?

(5) 当政府推出电子政务服务时，对市民的期待目标的优先顺序是？

After government published an e-Government application (or website), what are the goals do you expect from citizens?

知晓度(awareness) 想要使用的程度 (intention to use)

使用率 (usage) 满意度 (satisfaction) 其他 (others)

(6) 政府是否有相应营销活动来提高市民的知晓度/使用率/想要使用的程度/满意度？

Are there any promotional activities to raise citizens' awareness/usage/intention to use/satisfaction on e-government services?

(7) 如果可以的话，请您谈谈政府在推行电子政务服务时运用SNS的实例。

If possible, please talk about the cases when your government uses SNS to promote its e-Government application (or website) to citizens.

Appendix 7 In-depth interview: Chongqing local government

重庆公安分局宣传部关于行销电子政务服务的问题调研

Questions for interviewing Publicity Division of Chongqing Public Security Bureau, Chongqing, China

(1) 你们部门都有提供一什么样的地方电子政务服务?

What kind of application/platform your department has offered in local e-government system?

(2) 你们宣传电子政务服务时主要针对的群体是?

Who are your target groups of the publicity on e-government services?

(3) 在推广这些电子服务途径时是否有政策扶持或者是上级的鼓励?

Is there any encouragement from policy and leadership on promoting e-channels?

(4) 你们在向市民推广电子政务服务时的主要目标是什么?

What are the objectives of government's promotional activities to citizens?

知晓度(awareness) 想要使用的程度 (intention to use)

使用率 (usage) 满意度 (satisfaction) 其他 (others)

(5) 地方政府部门会有一些什么样的行销活动来推广电子政务服务?

What kind of promotional activities local government has adopted?

(6) 你们部门在推广电子政务服务时会和其他部门合作吗?

Is there any cooperation with other government departments in e-government promotion?

(7) 你们部门有和其他私部门的商业平台合作吗?

Do your department have any communication and collaboration with commercial platforms?

Appendix 8 Survey Questionnaire (Chinese version)

【介绍：政府部门通过向市民推广电子网络服务来提供公共服务质量和效率。如今，已经有了政务微信的各种公众号，通过微信城市服务缴纳各种费用，政务微博，政府部门的手机应用软件 APP，以及政府门户网站办理网上业务等多重方式。以下问卷中的“政府电子网络服务”包括了以上四种方式：政府微信，政务微博，政府手机应用软件 APP，和政府各部门网站。】

通过您的回答，我们能够更加了解与改善重庆市的政府电子网络服务，为市民提供更好的公共服务！

填写方法：请在您认为的选项打勾√。

知 晓 度		非常了解	知道且有一定了解	知道但不是很了解	不太知道	完全不知道	
	1. 您知道并了解任何重庆政府部门发布的微信公众号吗？						
	2. 您知道并了解任何重庆政府部门的微博公众号吗？						
	3. 您知道并了解任何重庆政府部门的手机应用 APP(软件)吗？						
	4. 您知道并了解任何重庆政府部门的网站吗？						
使 用 率		关注了很多	关注了一些	关注的很少	只关注了一个	完全没关注	
	1. 您是否有关注过任何重庆各政府部门发布的微信公众号？						
	2. 您是否有关注过任何重庆各政府部门的微博公众号？						
		下载了很多	下载了一些	下载的很少	只下载了一个	完全没下载	
	3. 您是否有下载过任何重庆各政府部门发布的手机应用软件 APP？						
		登陆并经常使用	偶尔登陆和使用	很少登陆和使用	只使用过一次	完全没登陆过	
4. 您是否有在电脑上登陆过任何重庆各政府部门网站，并使用网上服务？							
知 晓 来 源		家人朋友推荐	政府部门工作人员的介绍	网上的广告或介绍	实体广告或介绍	自己偶然发现	没听说过
	1. 您是从哪里得知重庆政府部门的政务微信公众号或城市服务的？						
	2. 您是从哪里得知重庆政府部门的政务微博公众号的？						
	3. 您是从哪里得知重庆政府部门的手机应用软件 APP 的？						
	4. 您是从哪里得知重庆政府部门的网站的？						
宣 传			非常同意	同意	中立	不是很同意	完全不同意
	1. 重庆有举办关于政府电子网络服务的公众展览						
	2. 小区/社区或者居委会有关于政府电子网络服务的活动						
	3. 重庆有关于政府电子网络服务的研讨会或者学习会						
	4. 重庆有关于政府电子网络服务的公开讲话或者演讲宣传						
			非常同意	同意	中立	不是很同意	完全不同意
政 府	1. 重庆有关于政府电子网络服务的户外广告，指示牌等						
	2. 重庆有关于政府电子网络服务的电视广告或广播广告						

广 告	3. 网上有关于政府电子网络服务的广告(不包括微信微博)									
	4. 报纸杂志等印刷媒体上有关于政府电子网络服务的广告									
政 府 微 博	1. 如果使用政府微博或政府微信,可以得到便利和相应好处									
	2. 如果使用政府微博和政府微信,可以节约时间或者简化程序									
	3. 微博和微信上有关于政府电子网络服务的广告									
	4. 微博和微信上有关于如何使用政府电子网络服务的指南									
工 作 人 员 的 推 广	1. 政府各部门办事处的工作人员会帮助和指导市民使用电子网络服务									
	2. 可以在网上联系工作人员询问政府电子网络服务的相关事项									
	3. 小区居委会等组织的工作人员也会帮助居民使用电子网络服务									
	4. 各种活动上会有工作人员帮助市民使用电子网络服务									
有 用 性 感 知	1. 使用政府的电子网络服务对我很有用									
	2. 使用政府的电子网络服务更有效率和节约时间									
	3. 使用政府的电子网络服务帮助我更好地与政府联系									
易 用 性 感 知	1. 使用政府的电子网络服务对我来说很简单									
	2. 我觉得政府的电子网络服务是很容易理解的									
	3. 我觉得我可以通过政府的电子网络服务获得我想要的									
想 要 使 用	1. 我觉得我会开始或者继续使用政府的电子网络服务									
	2. 我会在将来开始或者继续使用政府的电子网络服务									
	3. 我会推荐给别人使用政府的电子网络服务									
满 意 度	1. 我对重庆的政府微信公众号和城市服务总体来说很满意									
	2. 我对重庆的各政府部门微博总体来说很满意									
	3. 我对重庆的政府部门手机应用软件(APP)总体来说很满意									
	4. 我对重庆的各政府部门的门户网站总体来说很满意									
您 的 情 况	您的性别		男				女			
	您的年龄		岁							
	您的职业		学生	公 务 员	事业单位职员	企业职工	农民及工人	自营业	自由职业者	失业或无业
	您的受教育程度		研究生及以上		大学本科	大学专科	高中	初中	小学及以下	
	您使用电脑或互联网的能力			优		良	中等	不太会	完全不会	
	您的月收入		1000元以下	1000~3000元	3000~6000元	6000~9000元	9000~12000元	12000~15000元	15000元以上	
	您是重庆市市民吗(拥有大重庆市范围内户籍)				是			不是		

再次非常感谢您的仔细阅读与回答,您的协助对于我们了解与改善重庆市政府电子网络服务有很大帮助,
衷心感谢!

Appendix 9 Translation of Survey Questionnaire

Awareness	
1. How much are you aware of Chongqing government's e-services on WeChat platform?	<input type="radio"/> Not at all aware <input type="radio"/> Slightly aware <input type="radio"/> Somewhat aware <input type="radio"/> Moderately aware <input type="radio"/> Extremely aware
2. How much are you aware of Chongqing government's e-services on Weibo platform?	<input type="radio"/> Not at all aware <input type="radio"/> Slightly aware <input type="radio"/> Somewhat aware <input type="radio"/> Moderately aware <input type="radio"/> Extremely aware
3. How much are you aware of Chongqing government's official mobile APP?	<input type="radio"/> Not at all aware <input type="radio"/> Slightly aware <input type="radio"/> Somewhat aware <input type="radio"/> Moderately aware <input type="radio"/> Extremely aware
4. How much are you aware of Chongqing government's website e-services?	<input type="radio"/> Not at all aware <input type="radio"/> Slightly aware <input type="radio"/> Somewhat aware <input type="radio"/> Moderately aware <input type="radio"/> Extremely aware
Adoption	
1. How often do you use Chongqing government's e-services on WeChat platform?	<input type="radio"/> Never use <input type="radio"/> Almost never <input type="radio"/> Occasionally/Sometimes <input type="radio"/> Almost everytime <input type="radio"/> Frequently use
2. How often do you use Chongqing government's e-services on Weibo platform?	<input type="radio"/> Never use <input type="radio"/> Almost never <input type="radio"/> Occasionally/Sometimes <input type="radio"/> Almost everytime <input type="radio"/> Frequently use
3. How often do you use Chongqing government's official mobile APP?	<input type="radio"/> Never use <input type="radio"/> Almost never <input type="radio"/> Occasionally/Sometimes <input type="radio"/> Almost everytime <input type="radio"/> Frequently use
4. How often do you use Chongqing government's website e-services?	<input type="radio"/> Never use <input type="radio"/> Almost never <input type="radio"/> Occasionally/Sometimes <input type="radio"/> Almost everytime <input type="radio"/> Frequently use
Source of awareness	
1. From where do you know about Chongqing government's e-services on WeChat platform?	<input type="radio"/> Not at all aware <input type="radio"/> By accident <input type="radio"/> Recommended by staffs <input type="radio"/> Offline channels <input type="radio"/> Online channels <input type="radio"/> Recommended by acquaintance
2. From where do you know about Chongqing government's e-services on Weibo platform?	<input type="radio"/> Not at all aware <input type="radio"/> By accident <input type="radio"/> Recommended by staffs <input type="radio"/> Offline channels <input type="radio"/> Online channels <input type="radio"/> Recommended by acquaintance
3. From where do you know about Chongqing government's e-services on Weibo platform?	<input type="radio"/> Not at all aware <input type="radio"/> By accident <input type="radio"/> Recommended by staffs

<input type="radio"/> Offline channels <input type="radio"/> Online channels <input type="radio"/> Recommended by acquaintance
4. From where do you know about Chongqing government's website e-services? <input type="radio"/> Not at all aware <input type="radio"/> By accident <input type="radio"/> Recommended by staffs <input type="radio"/> Offline channels <input type="radio"/> Online channels <input type="radio"/> Recommended by acquaintance
Publicity
1. There are public exhibitions regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
2. There are community events/activities/meetings regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
3. There are official workshops/seminars regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
4. There are public speeches/campaigns regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
Government Advertisement
1. There are outdoor advertisements (billboard, etc.) regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
2. There are TV and radio advertisements regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
3. There are online advertisements (not in WeChat and Weibo) regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
4. There are printed media advertisements regarding e-government services of Chongqing. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
Usage Promotion by SNS (WeChat and Weibo)
1. There are advantages and convenience offered on WeChat and Weibo if choosing their e-government services platforms. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
2. Cost down (time or procedure reduced) is offered on WeChat and Weibo if choosing their e-government services platforms. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree

<input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
<p>3. There are advertisements on WeChat and Weibo regarding their e-government service platforms.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
<p>4. There are guides on WeChat and Weibo regarding their e-government service platforms.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
Staff Personal Persuading
<p>1. There are staffs persuading and helping citizens with e-government services at front office.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
<p>2. There are staffs can be contacted online that will persuade and help citizens with e-government services.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
<p>3. There are staffs from community to persuade and help citizens with e-government services (including visiting home).</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
<p>4. There are staffs persuading and helping citizens with e-government services at public events.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
Perceived Usefulness
<p>1. I believe adopting e-government services is useful to me.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
<p>2. I believe adopting e-government services will be more effective and efficient (time saving).</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
<p>3. I believe adopting e-government services will help me in better connection with government.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
Perceived Ease of Use
<p>1. Adopting e-government services is easy for me.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p> <p style="text-align: center;"><input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree</p>
<p>2. I think e-government services is easy-to-understand.</p> <p><input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree</p>

<input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
3. I think I can easily get what I want via e-government services. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
Intention to Use
1. It is probable that I will begin or continue using e-government services. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
2. I intend to begin or continue using e-government services in the future. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
3. I will recommend others to use e-government services. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
Satisfaction
1. I'm satisfied with Chongqing government's e-services on WeChat platform. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
2. I'm satisfied with Chongqing government's e-services on Weibo platform. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
3. I'm satisfied with Chongqing government's official mobile APP. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
4. I'm satisfied with Chongqing government's website e-services. <input type="radio"/> Strongly disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Neither agree or disagree <input type="radio"/> Somewhat disagree <input type="radio"/> Strongly agree
Your Information
Gender <input type="radio"/> Male <input type="radio"/> Female
Age Years Old
Occupation <input type="radio"/> Student <input type="radio"/> Government employee <input type="radio"/> Institution employee <input type="radio"/> Enterprise employee <input type="radio"/> Farmer or Worker <input type="radio"/> Self-operated business <input type="radio"/> Freelancer <input type="radio"/> Unemployed
Educational Level <input type="radio"/> Not at all aware <input type="radio"/> By accident <input type="radio"/> Recommended by staffs <input type="radio"/> Offline channels <input type="radio"/> Online channels <input type="radio"/> Recommended by acquaintance
IT Literacy <input type="radio"/> Not at all <input type="radio"/> Below basic <input type="radio"/> Basic <input type="radio"/> Proficient
Income (CNY) <input type="radio"/> Below 1000 <input type="radio"/> 1000~3000 <input type="radio"/> 3000~6000 <input type="radio"/> 6000~9000 <input type="radio"/> 9000~12000 <input type="radio"/> 12000~15000 <input type="radio"/> Over 15000
Chongqing Residency <input type="radio"/> Yes <input type="radio"/> No