



Research on the Evaluation Path of Civil Servants' Digital Governance Competences Based on the Competing Values Framework

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Abstract. Civil servants' digital governance competency is the cornerstone of digital government, and its accurate evaluation is an important starting point for the construction of digital government. This study revises the Competing Values Framework (CVF) with reference to the "value-role-ability" analysis framework, and builds a three-level index system for the evaluation of civil servants' digital governance competences based on data from the literature, policies, and interviews. Specifically, it includes four first-level indicators: "digital learning capabilities," "digital administrative capabilities," "digital service capabilities," and "digital collaboration capabilities," as well as 12 s-level indicators and 58 third-level indicators.

Keywords: The Competing Values Framework · Civil Servants · Digital Governance Competency · Evaluation Path

1 Introduction

From an industrial society to a digital society, the world today is undergoing unprecedented change. The Internet of Things, big data, cloud computing, artificial intelligence, block-chain, and other new-generation information technologies are deeply integrated into various fields of society, as data have become an increasingly important factor of production. To adapt to the trend of digital technology development and industrial change, countries worldwide attach great importance to the development of citizens' digital literacy. The United States has implemented "Connecting America: The National Broadband Plan" to promote citizens' digital literacy [1]. In 2021, the European Commission proposed the 2030 Digital Compass: The European Way for the Digital Decade to promote digital skills, digital infrastructures, digitalization of businesses, and public services. To better promote digital literacy and bridge the digital divide, UNESCO has developed A Global Framework to Measure Digital Literacy based on a review of more than 40 digital literacy frameworks used worldwide [2]. In recent years, China has paid increasing attention to the digital transformation. The Outline of the 14th Five-Year Plan (2021–2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China refers to "digital" 83 times, emphasizing that the digital transformation of the pattern of production, lifestyle, and governance models will lead to more rational decision-making and greater efficiency.

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With the deepening of research on citizens' digital literacy, academic circles have begun to classify the digital literacy of teachers, librarians, civil servants, and other groups. In the face of the uncertainty of governance ecology, complexity of governance problems, heterogeneity of governance needs, and diversity of governance tools, the accurate definition and scientific evaluation of the digital governance competences of civil servants has become an important issue. However, existing research on digital governance competences mainly focuses on government departments and less on the individual ability of civil servants. This study explores a possible way to evaluate the digital governance competences of civil servants based on the Competing Values Framework (CVF).

2 Evaluation Path of Civil Servants' Digital Governance Competences

2.1 Theoretical Framework

CVF was initially developed by Professor Robert E. Quinn of the School of Business Administration of the University of Michigan in the 1980s. The theory constructs the analytical path of "value-role-ability" [3]. It has been found to be an extremely useful model for understanding the relationship between leaders' managerial capabilities and organizational performance. We believe that the CVF has great guiding significance for organizing and understanding the digital governance competences of civil servants. First, the "value-role-ability" analysis framework can guide the study of the digital governance competences of civil servants to avoid focusing only on digital skills and an inadequate depth of deconstructing. Second, it advocates the construction of the value coordinate system along the internal-external and control-flexibility dimensions, which provides a reference for the analysis of the digital governance competences of civil servants. Third, according to the CVF, leadership roles are divided into eight types: producer, coordinator, mentor, innovator, broker, monitor, facilitator, and director, each of which has three ability requirements.

In the digital era, the values that civil servants should pursue include the balance between internal and external, the balance between individuals and organizations, and the balance between stability and vitality (Fig. 1). The "governor" orientation of civil servants is different from the "economic man" in enterprises and the "political man" in traditional public administration. They should assume four roles, namely learner, executor, service provider, and coordinator. Four abilities are required to fulfill these roles, including digital learning capability, digital administrative capability, digital service capability, digital collaboration capability.

2.2 Data Sources

This study builds an evaluation system for civil servants' digital governance competences based on literature(L), policy(P), and interviews(I). Through a literature analysis, this paper clarifies the four roles of civil servants (learner, executor, service provider, and coordinator) and builds first-level indicators and some second-level and third-level indicators. Through policy analysis, this study refines the digital governance competences

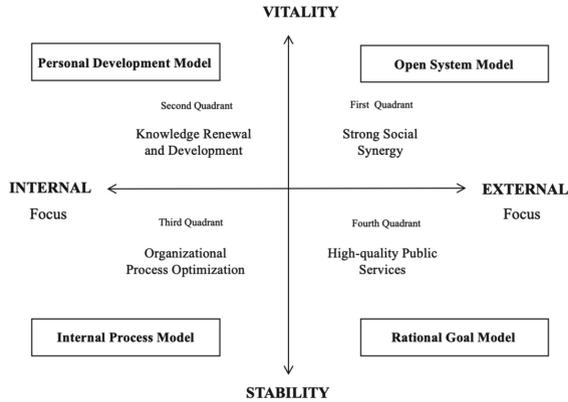


Fig. 1. Value Coordinate System of Digital Governance for Civil Servants (Quinn & Rohrbaugh, 1983)

of civil servants and initially develops the secondary and tertiary indicators of the evaluation index system. Finally, according to the content of the interviews, the three-level index system thereby constructed was revised.

The scope of literature includes articles on digital transformation, digital governance, digital government, e-government, information technology capabilities, digital literacy, digital competencies, digital leadership, civil servant literacy, civil servant competencies, civil servant competencies, and similar topics. The policy was issued with a focus on policies since 2016 (the starting year of China’s 13th Five-Year Plan). Policy analysis covers a wide range of governance issues, not only top-level design at the central level, but also the policies of provinces and cities. In terms of policy attributes, we not only pay attention to overall planning documents, but also other special plans. To supplement and revise the initial civil servants digital governance competence index system, we conduct in-depth interviews with researchers and practitioners in the fields of digital governance and human resource management. The interviewees are civil servants, community workers, social organization staff, and public representatives from different regions and levels.

2.3 The Composition of the Evaluation Index System

Through consulting policies, documents and interviews, we construct a set of index systems for evaluating civil servants’ digital governance competences, which includes 4 first-level indicators, 12 s-level indicators, and 58 third-level indicators (Table 1). Digital learning capability refers to the ability of civil servants to use digital learning tools and resources to increase their knowledge and enhance their talents in the digital environment [4]. Digital administrative ability refers to the comprehensive quality of civil servants to use digital technology to promote digital identity reconstruction, internal operation process re-engineering, and governance optimization to adapt to the development of new technologies and new governance scenarios [5]. Digital service capability refers to the ability of civil servants to serve the public with technologies such as the Internet, the

Internet of Things, cloud computing, and big data [6]. Digital collaboration ability refers to the ability of civil servants to use digital concepts, technologies, tools and other means to promote friendly cooperation between different subjects [7].

Table 1. Evaluation Index System of Civil Servants' Digital Governance Capability

First level index	Second level index	Third-level index	Sources	
A1 Digital Learning Capability	B1 Learning Ability of Digital Governance Technology	C1 Driving Force of Digital Governance Technology Learning	I	Scholar
		C2 Digital Governance Technology Value Recognition	L	Twizeyimana et al., 2019
		C3 Critical Thinking of Digital Governance Technology	I	Scholar
		C 4 Digital Governance Technical Team Learning Ability	L	Jiang Weiguo, et al., 2021
	B2 Learning Ability of Digital Governance Policy	C5 Understanding Digital Governance Policy Capability	P	State Council (2022) No.14
		C6 Promotes Digital Governance Policy Capability	P	State Council (2022) No.14
		C7 Digital Governance Policy Reference Capability	I	Scholar
		C8 Digital Governance Policy Implementation Capability	P	State Council (2022) No.14
	B3 Ability to Utilize Digital Learning Resources	C9 Digital Learning Resource Search Ability	L	Alphonse et al., 2019
		C10 Digital Learning Resource Identification Ability	L	Hill et al., 2001
		C11 Ability to Absorb Digital Learning Resources	L	Xia Xin, 2013
		C12 Digital Learning Resource Creation Ability	L	Wan Liyong et al., 2014

(continued)

Table 1. (continued)

First level index	Second level index	Third-level index	Sources		
A2 Digital Administrative Capability	B4 Digital Identity Management Capability	C13 Digital Trust	L	Kelton et al., 2008	
		C14 Digital Security Awareness	L	Schinagl et al., 2020	
		C15 Digital Efficacy	L	Wu Wenqiang et al., 2021	
	B5 Digital Office Capability	C16 Digital Governance Technology Usage Ability	L	Deursen et al., 2010	
		C17 Digital Governance platform Usage Ability	L	Zhang Xiao et al., 2018	
		C18 Digital Governance Collaboration Ability	L	Zhao Juan et al., 2021	
		C19 Digital Avoidance Tendency	L	Tian Xianhong, 2022	
	B6 Digital Administrative Innovation Capability	C20 Ability to Introduce New Concepts in Digital Administration	I	Civil Servants	
		C21 Internal Driving Force of Digital Administrative Innovation	I	Civil Servants	
		C22 Ability to Introduce New Digital Administrative Technologies	P	Office of the State Council (2016) No. 108	
		C23 Digital Administrative Process Optimization Ability	P	State Council (2016) No. 55	
		C24 Digital Administrative Suggestion Ability	I	/	
A3 Digital Service Capability	B7 Ability to Open Government Affairs	C25 Cognition of the Importance of Open Government	I	Citizen	
		C26 Familiarity with Open Government Policy	P	Office of the State Council (2016) No. 80	
		C27 Familiarity with Open Government Channels	P	Office of the State Council (2021) No. 12	
		C28 Ability to Resolve Resistance to Open Government Affairs	L	Janssen et al., 2012	

(continued)

Table 1. (continued)

First level index	Second level index	Third-level index	Sources	
	B8 Ability to Governing Online	C29 Cognition of the Importance of Governing Online	I	Scholar
		C30 Familiarity with Governing Online Policy	P	Office of the State Council (2021) No. 12
		C31 Familiarity with Governing Online Platform	P	Decree No. 716 of the State Council of the People's Republic of China
		C32 Ability to Learn About People's Needs	P	Shanghai Gov. (2022) No. 5
		C33 Ability to Seek People's Advice	P	National Bureau of Statistics (2017) No. 89
		C34 Responsiveness to Online Inquiries	P	Zhejiang Gov. (2021) No. 13
		C35 Ability to Handle Online Complaints	P	Zhejiang Gov. (2021) No. 13
		C36 Ability to Adopt Online Suggestions	P	Changsha Gov. (2020) No. 25
	B9 Online Service Capability	C37 Cognition of the Importance of Online Services	I	Scholar
		C38 Familiarity with Online Service Criteria	P	State Council (2016) No. 55
		C39 Ability to Serve Enterprises Online	P	State Council (2021) No. 29
		C40 Ability to Serve the Public Online	P	State Council (2018) No. 27
		C41 Satisfaction of Online Service Requirements	L	Yang Hui et al., 2018
	A4 Digital Collaboration Capability	B10 Network Public Opinion Guidance Ability	C42 Early Warning Awareness of Internet Public Opinion	I
C43 Network Public Opinion Monitoring			L	Ceron et al., 2016
C44 Network Public Opinion Research and Judgment			L	Mei Song, 2011
C45 Negative Internet Public Opinion Grooming Ability			P	Office of the State Council (2016) No. 61

(continued)

Table 1. (continued)

First level index	Second level index	Third-level index	Sources	
		C46 Network Agenda Setting Ability	L	Luo, YJ, 2014
	B11 Network Public Participation Organization Ability	C47 Network Public Participation Spirit Cultivation Ability	I	Citizen
		C48 Network Public Participation and Mobilization Ability	L	Falco et al., 2018
		C49 Network Public Participation Rules Negotiation Ability	L	Jin Taijun et al., 2014
		C50 Network Public Participation Opinion Integration Ability	L	Dong YC et al., 2021
		C51 Network Public Participation Result Transformation Ability	L	Han Jianli, 2019
		C52 Ability to Enhance the Breadth of Online Public Participation	I	Civil Servants
		C53 Ability to Enhance the Depth of Network Public Participation	I	Civil Servants
		B12 Digital Contradiction and Dispute Resolution Ability	C54 Digital Early Warning Ability of Contradiction and Dispute	P
	C55 Conflict and Dispute Risk Research and Judgment Ability		P	State Council (2022) No. 14
	C56 Ability to Form a Conflict and Dispute Resolution Team		I	Civil Servants
	C57 Online Mediation Ability		L	Zhang Yuqi et al., 2021
	C58 Digital Follow-up Visit Capability		L	Zhang Wenhui, 2019

3 Conclusion

The digital governance competences of civil servants are not only the cornerstone of digital government but also the key to the construction of Digital China. In the digital age, the development of human resources in the public sector should take the construction of digital governance competency as a top priority and urgently promote the scientific evaluation of the digital governance competences of civil servants. Based on the Competing Values Framework, this study conducts an exploratory study of the evaluation path of civil servants' digital governance competences. Through "value-role-ability" analysis, using literature analysis, policy analysis, and in-depth interviews, this study establishes a three-level index system for the evaluation of civil servants' digital governance competences that comprises 4 first-level indicators, 12 s-level indicators, and 58 third-level indicators. This study may help to evaluate the level of digital governance competences of civil servants and develop targeted strategies to enhance the accuracy and effectiveness of human resources management in the public sector.

Due to the constraints of the author's research ability, time, and funds, there are still some deficiencies in this study. The policy analysis in this paper is mainly based on China's policy system and lacks attention to other countries' policies. Looking at the existing literature, although the digital governance research results are fruitful, research on the digital governance competences of civil servants is still in its infancy and future research is promising. Screening, empowerment, application, inspection, and correction of the evaluation index system, the influencing factors of the ability level, and the path of ability improvement are all directions worth exploring.

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