RESEARCH ON ACCOUNTING PROFESSIONALS IN THE DIGITAL ECONOMY ERA

KUN LIANG

MASTER OF BUSINESS ADMINISTRATION IN DIGITAL ECONOMICS AND MANAGEMENT INNOVATION

(INTERNATIONAL PROGRAM)

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OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION
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ชื่อปริญญา บริหารธุรกิจมหาบัณฑิต สาขาวิชาเศรษฐศาสตร์ดิจิทัลและนวัตกรรมการจัดการ (หลักสูตรนานาชาติ)
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บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อสำรวจในยุคที่นักบัญชีเศรษฐกิจดิจิทัลจำเป็นต้องมีความสามารถทั้งการเพิ่มขึ้นของเศรษฐกิจดิจิทัลเพื่อการบัญชีได้นำงานวิจัยใหม่ๆ จากมุมมองของนักบัญชีมาตรวจสอบโมเดลความสามารถรูปแบบวิทยาศาสตร์ ขยายขีดความสามารถ รูปแบบของการประยุกต์ใช้ในด้านทรัพยากรมนุษย์ เสริมสร้างความหมายแฝงของแบบจำลอง จากมุมมองทางทฤษฎีของทฤษฎีสมรรถนะแบบทฤษฎีภูเขาน้ำแข็งและแบบทฤษฎีหัวหอม โมเดลสมรรถนะของนักบัญชีในยุคเศรษฐกิจดิจิทัลได้รับการปรับปรุงให้ดีขึ้น แบบสอบถาม 414 รายการเสร็จสมบูรณ์ร่วมกับซีอีโอ ประธานเจ้าหน้าที่ฝ่ายการเงิน ผู้จัดการฝ่ายบัญชี และผู้จัดการฝ่ายทรัพยากรบุคคลของอุตสาหกรรมต่างๆ ในมณฑลกวางสี และข้อมูลได้รับและวิเคราะห์ด้วยวิธีการวิเคราะห์ทางสถิติเชิงพรรณนา

ผลการวิจัยพบว่าผู้มีความสามารถด้านการบัญชียุคดิจิทัลจำเป็นต้องมีองค์ประกอบความสามารถ 11 องค์ประกอบ รวมถึงความสามารถทางเทคนิคส่วนใหญ่ ได้แก่ เทคโนโลยีดิจิทัล การวิเคราะห์ข้อมูลขนาดใหญ่และข้อมูล หุ่นยนต์และปัญญาประดิษฐ์ ความปลอดภัยของเครือข่าย ผลกระทบด้านภาษี และทักษะด้านกฎหมายและกฎระเบียบ ความสามารถส่วนใหญ่ประกอบด้วย: พฤติกรรมทางวิชาชีพและศีลธรรม การแก้ปัญหาและการตัดสินใจ การสื่อสาร การจัดการตนเอง ความร่วมมือในทีม และความเป็นผู้นำ ผู้มีความสามารถด้านการบัญชีมีความสามารถด้านดิจิทัล ซึ่งสามารถปรับปรุงผลประโยชน์ขององค์กรได้อย่างมีประสิทธิภาพมากขึ้น และยังจะเป็นพื้นฐานสำหรับองค์กรในการกลั่นกรองความสามารถด้านบัญชี แต่ยังช่วยให้ผู้มีความสามารถด้านการบัญชีเข้าใจความต้องการขององค์กรเพื่อบรรลุเป้าหมายการพัฒนาตนเองตามเป้าหมาย

คำสำคัญ : เศรษฐกิจดิจิทัล, สมรรถนะ, ความสามารถทางบัญชี

Title RESEARCH ON ACCOUNTING PROFESSIONALS IN THE DIGITAL ECONOMY ERA

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ABSTRACT

This study aims to explore the under the era of digital economy accounting professionals need to have the ability, the rise of digital economy for accounting has brought new research tasks, from the perspective of accounting professionals to verify the competency model is scientific, expand the competency model of application in the field of human resources, enrich the connotation of the model. Based on the theoretical perspective of the competency theory, the iceberg model and the onion model, the competency model of accounting professionals in the era of digital economy is refined. With the CEOs, chief financial officers, accounting managers and human resource managers of different industries in Guangxi province, 414 questionnaires were completed, and the data were obtained and analyzed through descriptive statistical analysis methods.

The results show that the digital age accounting talents need to have the following 11 competence elements, including technical ability mainly include: digital technology, big data and data analysis, robot and artificial intelligence, network security, tax impact and legal and regulatory skills, enabling ability mainly include: professional and moral behavior, problem solving and decision-making, communication, self management, team cooperation and leadership. Accounting talents have digital ability, which can more effectively improve the benefits of enterprises, and will also provide a basis for enterprises to screen accounting talents, but also help accounting talents to understand the needs of enterprises so as to achieve targeted self-improvement.

Keywords : Digital economy, Competence, Accounting talent

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Kun Liang

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CHAPTER I
INTRODUCTION

Background

In recent years, information technology has been constantly updated and developed in the digital economy, and technological innovation and digital transformation are profoundly changing the business environment and the way organizations operate. Accounting professionals, as key supporters of business operations and decision-making, are also facing unprecedented challenges and opportunities. Accounting professionals are no longer just tedious data recording and report preparation, but have become key players in strategic decision-making and need to possess a wider and deeper range of competencies to adapt to this evolving environment. In order to adapt to the needs of social and economic development, the application environment of accounting work has changed a lot, and this change will inevitably put forward higher requirements for the current accounting talents, and the competence of accounting talents is also facing new challenges. According to the National Informatization Development Strategy 2006-2020, the Ministry of Finance issued the Guidance Opinions on Comprehensively Promoting Accounting Informatization in China, which points out that "promoting the construction of accounting talents is one of the main tasks for comprehensively promoting accounting work in China, and it is necessary to improve the competency framework of accounting personnel, pay attention to the contents of technical aspects We should improve the competency framework of accounting personnel, emphasize the technical contents and skills, strengthen the cultivation of accounting talents, and strive to build a composite accounting talent team.

Foreign literature on the cultivation of accounting talents is relatively rich, and most of them are related to foreign literature on the evaluation system of accounting talents. In China, there is relatively little research on the competencies that accounting talents need to have, and it was only in July 2018 that the Chinese Association of Accountants introduced the Chinese accounting professional competency framework (discussion draft). The internal demand and changes in the external environment have put forward new requirements for accounting talents, and the Ministry of Finance has taken advantage of the situation to put forward the guidance for establishing China's accounting system in 2014, and proposed to promote the construction of the management accounting talent team, promote the construction of the competency framework for accounting talents, and improve the current evaluation system for accounting talents. The purpose of this paper is to discuss the competency of accounting professionals in the era of digital economy, i.e., the knowledge, skills, abilities, and literacy that accountants need to possess in the context of digital transformation. The rise of digital economy has brought new

tasks and responsibilities to the accounting field, requiring accountants to possess in-depth knowledge and mastery of digital tools, data analysis, and information security. However, accounting competency in the digital economy is not only about technology, but also about adaptation to change, the development of innovative thinking and the ability to work in cross-functional teams.

This study chooses enterprises in Guangxi Province of China as the research object. First of all, Guangxi Province is located in the coastal area of China's western development, is China's "One Belt, One Road" opening up to the outside world, to ASEAN, to the world's important portals and frontiers, is the most convenient access to the sea in the southwestern part of the country. Guangxi region is an important hub of the Maritime Silk Road, and has a unique position in the strategic pattern of western development and national opening-up. In recent years, relying on the implementation of the "Digital Economy" strategy and the promotion of the "Six Guarantees" policy, Guangxi region has made full use of its regional advantage over ASEAN, relying on the development opportunities brought about by the ASEAN Free Trade Area of China and the Beibu Gulf Economic Zone of Guangxi, and actively responded to China's "One Belt, One Road" initiative. The change of development mode and industrial upgrading have increased the demand for talent training in the accounting industry, however, with the development of the digital economy, the demand for the ability of accountants has changed dramatically, and the original competency of accountants is no longer adapted to the current development needs of enterprises. Therefore, this study will be devoted to the research on the competency of accounting personnel in the context of digital economy. Through an in-depth analysis of the competency of accounting professionals in the digital economy, we can better understand the competency of accountants in the context of digital transformation, provide guidance and inspiration for them to succeed in the increasingly complex and diverse business environment, and also provide a basis for enterprises to select accounting talents, which is also conducive to the understanding of the needs of accounting practitioners so as to improve themselves in a targeted manner. It will also help accounting practitioners understand the needs of enterprises and thus improve themselves in a targeted manner.

Research of Problem

What competency should accountants possess in the digital economy era?.

Objectives of the study

1. Study the technical competency of accounting professionals in China in the era of digital economy.

2. Study the enabling competency of accounting professionals in China in the era of digital economy.

Expected Results

Theoretical significance

The accounting industry has developed by leaps and bounds. It is not only favored by the industry, but also attracted the attention of the academia. In this study, CEOs, chief financial officers, accounting managers, human resource managers and other companies from different industries in GuangXi Province of China were selected as the survey subjects. Through relevant literature, we can understand the characteristics of accounting professionals, combine the theory of competence, and analyze the abilities of accounting professionals in the era of digital economy, so as to provide ideas for enterprises to select accounting talents, and also help accounting talents to understand the needs of enterprises so as to achieve targeted self-improvement.

According to the previous literature research, there is a wealth of foreign literature on accounting talents training, most of which are foreign documents on the evaluation system of accounting talents, and there are relatively few studies on the ability of accounting talents in China. At the beginning of the topic selection, this paper noticed that the existing research is not systematic enough in the research of accounting professionals in the era of digital economy, so it discussed this problem, and found that accounting talents have digital ability, which can more effectively improve the benefits of enterprises, and will also provide for enterprises to select accounting talents.

Practical significance

Under the new economic background, according to the different demands for accounting talents in various industries, through the research on the competence of accounting talents, we analyze and interpret the competence and training path of accounting talents in the era of digital economy, so as to provide new ideas and directions for the career planning and healthy development of accounting industry and accounting practitioners.

1. Through the understanding and analysis of the current situation of accounting talents' competence, excavate the existing problems and deficiencies in the training of accounting talents, and point out the direction for the future development.

2. Focus on cultivating the competence of accounting talents that meet the development needs of digital economy, put forward new requirements for the competence of accounting personnel themselves, provide suggestions for the direction of accounting talent training, narrow the gap between the needs of

enterprises and the talent training objectives, and improve the competence of accounting talents.

3. Through the digital economy era of accounting professionals competence, better understand in the background of digital transformation, accounting personnel need to have the ability, for them in the face of increasingly complex and diversified business environment success provide guidance and enlightenment, will also provide the basis for the enterprise screening accounting talent, but also conducive to accounting practitioners understand enterprise needs to targeted self-improvement.

Scope of the study

Population area

The population of the study is CEOs, CFOs, accounting managers, HR managers, etc. of 11,765 enterprises in the agricultural and food industry, consumer products industry, real estate and construction industry, industrial industry, financial industry, service industry, and technology industry in Guangxi.

Content Scope

In order to study the competence of accounting professionals in the era of digital economy, this study will be carried out under the guidance of iceberg model and competency theory.

Duration

This study starts in October 2022 and ends in June 2023.

Definition of term

To facilitate the understanding of this study, the technical terms used in this study are clarified as follows:

Digital economy: Digital economy refers to an economic system based on digital technology and changing traditional industries and business models to promote economic growth, innovation and development. In the digital economy, digital technologies such as the Internet, artificial intelligence, big data, blockchain and so on are widely used in various fields, thus changing the way of production, circulation, consumption and management (McCarthy, 1958).

Competency: The concept of "competence" first proposed by harvard professor David McClelland (1973), refers to a job distinction between the ordinary deep personal characteristics, it can be motivation, traits, self image, attitude, or values, a field of knowledge, cognitive or behavioral skills any can be reliably measured or count and can significantly distinguish between good and general performance of individual characteristics.

Accounting personnel: Accounting personnel refers to the specialized personnel who can apply the accounting professional knowledge and skills to the accounting work practice. It is an important task of accounting personnel team construction to train applied accounting personnel and give full play to the role of accounting personnel in social practice. The industry-university-research strategic alliance provides a good way to train the applied accounting personnel.

Technical competence: Technical competence refers to the biochemical knowledge and skills attached to the internal personnel, equipment, information and organization to support the realization of technical activities and technological innovation. In essence, technical ability is an action-oriented knowledge source oriented by technological development, which is embodied in the information-based ability condensed in individuals, groups or objects. This ability is manifested as a behavioral process or potential characteristic of the individual or being competent for the job or task.

Enabling competence: Accounting enabling competence refers to the auxiliary skills and knowledge in accounting work that can support accounting professionals to effectively carry out their daily work and improve their work efficiency and quality. It means that accounting professionals give full play to their professional knowledge and skills in their work to provide support for the decision-making, operation and management of the organization, so as to enhance the organization's business efficiency and strategic decision-making ability.

CHAPTER II
LITERATURE REVIEW

Theories Related to the study

Competency theory

Competency theory originated from the beginning of the 20th century 50s. The research of competency theory mainly focuses on the definition of competency, the classification of competency and the competency model. Competenence is the individual condition and behavioral characteristics that directly affect work performance, including knowledge, skills, personality, motivation, values, attitude, self-image or social role, etc. It can distinguish between employees with excellent performance in enterprises and those with average performance in enterprises. (Mansfield, Parry, 1996; Campion, 2011) According to the "iceberg model" proposed by David C. Mcclelland (1973), capabilities are divided into two categories: apparent and implicit. The apparent ability mainly includes knowledge and skills, which are easy to measure and cultivate, and are the benchmark ability. The implicit ability mainly includes values and attitudes that are difficult to measure and cultivate, and are the key factors and ability to distinguish between excellent and general performers. At present, domestic and foreign scholars have applied the theory of competency to human resource management in various industries through empirical research. (Wang, Tang & J, 2009).

Iceberg model

In 1973, the American scholar McClelland proposed the iceberg model. His theory compared competence to an iceberg, which is divided into the ice part and the ice part according to the degree of competence. The ice part is the explicit competence, also known as the benchmark competency characteristics, mainly including the flexible knowledge and skills, which is the basic quality requirements of the competent and the minimum limit for effective work execution; the ice part is the implicit competence, also known as the discriminatory competence characteristics, which mainly includes self-concepts, characteristics and motivation that are difficult to be perceived and cultivated, which is the key to distinguish the top performers and peers, and determines people's behavior and performance. Spencer (1993) successively proposed the "iceberg theory" is regarded as the classical theoretical basis of competency, also believe that the model is divided into two parts, the first part is the knowledge and skills on the ice, such elements are dominant, is relatively easy to measure,and available through learning and training, these are the most basic requirements for employees in daily work; the second part is a hidden characteristics, which mainly includes motivation, characteristics and self-concept. It is not easy to be found by others, many of them are personal requirements for their own, as well as the habits formed for a long time, basically not

influenced by others. In general, it is very difficult for ordinary people to obtain this characteristic from the outside world. The American scholar Boyatzis (1982) represents the characteristic view, and the holders of the characteristic view tend to take the competency iceberg theory as the potential feature of the individual. Spencer (1993) agrees with this view. He divides the iceberg model into five levels, from low to high score motivation, trait, self-concept, knowledge and skills, as shown in Figure 1:

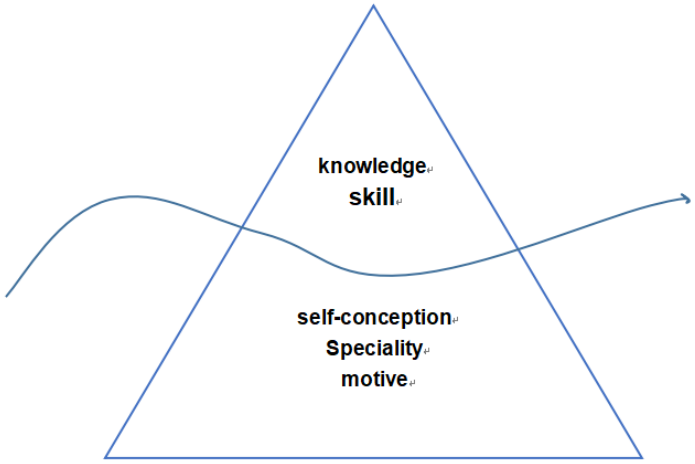

Figure 1 The Iceberg Model

The Onion Model

The onion model is evolved on the basis of the iceberg model. American scholar Spencer (1993) conducted in-depth and extensive research on the theory proposed by McClelland, thus putting forward the "onion model", showing the core elements of the composition, and explaining the characteristics of each component that can be observed and measured. The Onion model is a structure that summarizes the competence quality from the inside to the outside. The core is the motivation, and then it spreads out outward into personality, self-image and values, social role, attitude, knowledge and skills. The more outward, the easier to cultivate and evaluate; the more inward, the more difficult to evaluate and learn. Armstrong (1996) proposed that the model shows the various elements needed for those to perform well, and from the surface to the inside, the elements become more important and the more difficult it is to obtain through learning and training. It is divided into three levels, one more than the iceberg model. The outermost layer is surface elements, including knowledge and skills; the middle layer is values and attitudes; the core layer is motivation and traits. It is clear that the outermost layer of this model is the dominant part of the iceberg model, where the middle and core layers are divided again divided on the basis of the recessive part. Spencer (1993) believes that the

Onion theory is a structure that summarizes competence from inside to outside, and the core elements in the Onion model from inside to outside are motivation, personality, self-image and values, social role, attitude, knowledge, skills, etc. The motivation is the drive to promote individuals to achieve their goals; personality is the individual's response mode, tendency and characteristics to the external environment and various information; self-image refers to the view and evaluation of individuals; the social role is the understanding of the appropriate behavior code accepted and considered by their social group or organization; attitude is the result of the externalization of the individual's self-image, values and social role; knowledge is the factual and empirical information of the individual in a specific field; skill is the ability of the individual's structure to use knowledge to complete a specific work.(Ulrich, Brockbank, Yeung & Lake, 1995) Basically, the knowledge and skill of "onion" is equivalent to the water part of "iceberg"; the motivation and personality of "onion" are equivalent to the deepest part of "iceberg", and the self-image and role in the middle of "onion" are equivalent to the shallow part of "iceberg". Compared with the iceberg model, the onion model is essentially the same, emphasizing the core qualities or basic qualities. The evaluation of core qualities can predict a person's long-term performance. In contrast, the onion model highlights the hierarchical relationship between potential quality and apparent quality, and can explain the relationship between quality more than the iceberg model. As shown in Figure Figure 2:

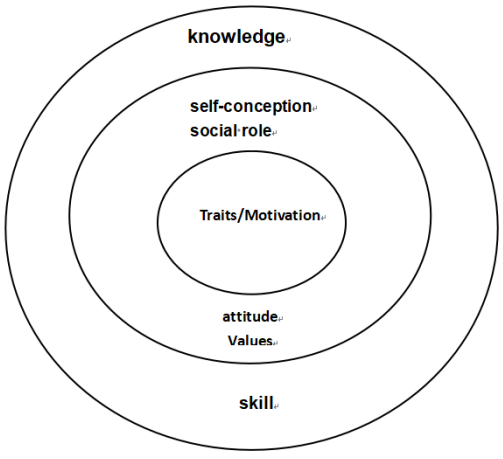

Figure 2 Oion Model

The theory of match between people and jobs

The theory of man-job matching was first proposed by Professor Parso (1909), a famous professor of psychology at Boston University, and was formed on the basis of the theory of personality psychology and difference psychology. According to this theory, individual differences are widespread, and there are obvious differences

among individuals in terms of ability type, ability level or personality characteristics. These differences are applicable to various occupations, it will be according to their own characteristics, according to the requirements of different occupations, and then find the right occupation, in the occupation to play their potential, in the quality of people and practice requirements in harmony, that is, to meet the requirements of job matching. The theory of person-job matching mainly includes the theory of characteristic factors and personality occupation type.

The characteristic factor theory originated in the 19th century and was developed by professors Parson and Willianson. The theory of characteristic factors has three premises: evaluable, feasibility and matching. The choice and arrangement of occupation mainly has three aspects: first, the characteristics of personnel personality are analyzed and evaluated. Obtain the basic information of personnel, such as personnel personality, interest, ability, physical condition, etc. Then, other relevant information, such as educational background, work experience and family background, were obtained through file review, surveys and family interviews. Finally, the comprehensive evaluation and analysis of the obtained information, summarize the characteristics of personnel, and select the suitable occupation according to the characteristics. The theory of characteristic factors prevailed in the United States, and also in Canada, The United Kingdom and Japan. This theory is often cited in the practice of human resource evaluation and employment guidance in China in recent years. This theory aims to achieve the best matching between individual characteristics and specific occupational requirements, so as to match the work to be completed with the personnel who complete the work, so that the suitable people can do appropriate things, give play to the potential and role of personnel, effectively improve work efficiency, and achieve the ultimate goal of human-job matching.

The theory of personality occupation type was proposed by J.L.Holland (1959). He believes that different personality types directly affect the occupational type. When the occupational environment is consistent with the personality type, it will stimulate people's enthusiasm for work and improve job satisfaction. According to the occupational tendency and psychological quality of personnel, the theory of individual occupation types divides personnel into six types: art, research, reality, tradition, enterprise and society. With the combination of personnel types and their occupation, the appropriate state can be achieved, that is, the personnel find the appropriate position. But occupation and personality types are not corresponding, because people have strong adaptability, their personality types may be a mixture of several types, but there will always be one that is the closest personality type.

The theory of person-job matching is applicable to the professional ability of accountants. Accountants should not only have professional knowledge and technology in practicing activities, but also have high professional ethics and rich professional experience. For a good accountant, in addition to should have the above characteristics, because of the particularity of its work, fast pace, intensity, seasonal,

so strong interest in employment and suitable personality, high ability to work and healthy body is very important for certified public accountants, these characteristics to ensure its play strong professional competence. When the accountant integrates the above characteristics, and devote himself to the practice activities, do the work suitable for himself, and play his own potential in the work, with high work efficiency, so as to achieve the goal of matching person and job.

Maslow's hierarchy of needs theory

In his book Human Incentive Theory, A.H.Maslow (1942), an American professor of psychology, explains the demand theory, which explains the five levels of basic human needs, namely physiological needs, safety needs, emotional and belonging needs, respect needs and self-realization needs. The professor's research points out that the above five demands are like a ladder, progressive from low to high. If the lower level of demand is realized, there will be a demand for the higher level of demand. Among them, external factors can realize people's physiological needs, love needs and safety needs, while the other two needs to respect the needs and self-realization needs can only be met by internal factors, which is a higher level of demand. In real life, not everyone can meet the above five needs, and the higher the level needs, the more difficult to achieve and meet. Moreover, everyone may have several needs at the same time, and his behavior is also dominated by multiple needs, but there is always one demand that will play a dominant role in a certain period. If you want to motivate someone, as long as you pay attention to his level of needs, you will be targeted and implement efficient incentives. Those unmet needs are the key to becoming the incentive element, and if the needs is met, there is no need for motivation.

The theory of demand level also applies to the professional competence of accountants. Professional knowledge and professional skills are the basic conditions for their work. It can be realized through learning, training and obtaining qualification certificates, which belongs to a lower level of demand for accountants. Obviously, professional ethics is the need of the top. When conducting practice activities, especially in authentication business, accountants are far from enough. Professional ethics such as independence, objectivity and impartiality have played a huge role in practice activities. Only by abiding by the relevant professional codes of ethics and having a high professional quality, can accountants make their professional knowledge and professional skills play an effective role, ensure fairness and justice in their practice activities, and realize the supervisory role of accountants.

Theoretical framework

Competency related research

The term competency was put forward by the American scholar McClelland (1973), who believes that competency is the individual characteristic that can distinguish the performance level of an individual in a specific job position and organizational environment. It can be an individual's motivation, trait, self-concept, attitude or values, knowledge or behavioral skills in a certain field, etc. They are not only a starting point to judge whether a person can qualify for a job, but also a synthesis of individual characteristics that determine and distinguish differences in performance. He advocated to replace intelligence test with competency model evaluation as a method to predict future work performance, which set off a climax of competency research. The representative study on competency Boyatzis (1982) described competency as "potential characteristics of a person", It may be a trait, a skill, a self-impression, or the body of knowledge that he uses; Spencer (1993) summarizes the research results over the years, Proposed the famous iceberg model, In this model, The different manifestations of individual quality are divided into knowledge, skills, role positioning, self-cognition, quality and motivation; Trett (2000) defines competence as an individual who can make a positive or negative contribution to the effectiveness of an organization, Emphasize the behavioral orientation, observability and measurable ability of competency. Others scholars adopt a compromise view, believing that competence is not only a potential feature related to work performance, but also its behavioral characteristics. Ledford (1995) believes that competency is a verifiable trait of an individual, that is, the knowledge, skills and behaviors related to the generation of excellent performance. (Byham and Moyer, 1996) believe that competence is all behaviors, motivation and knowledge related to work, and can be classified; they divide competence into three categories: behavioral competence, knowledge competence and motivation competence: Behavior competence refers to individual behavior that leads to performance; knowledge competence refers to the facts, skills, specialties, procedures, etc. known to individuals; and motivation competence refers to the feeling of work, organization, etc.

Pro.McClelland (1973) proposed "competency", he believes that specific knowledge, skills, ability, motivation and characteristics have an important impact on the excellent performance of high performance, and the combination of these elements is "competence". According to Stancheva Todorova (2019), Industry 4.0 is changing the structure and scope of the accountant qualification file known as "Accountants 4.0". They must have the knowledge and skills, including (1) digital technology, (2) big data and data analytics, (3) robotics and artificial intelligence, (4) cyber security, (5) tax implications, and (6) legal and regulatory requirements that are a combination of interdisciplinary skills and abilities. Pro.Boyatzia (1982) believes that

competency is the inherent characteristics of creating outstanding achievements, which mainly include: knowledge, skills, motivation, social role, personality traits, self-image, attitude and values, etc. The American Institute of Certified Public Accountants (AICPA, 1999) proposes three important competencies in the accounting competency framework related guidelines, which are mainly comprehensive working ability, management ability, learning ability, communication ability, leadership ability, professional technology, etc. The "White Paper" published by the International Federation of Accountants (FAC, 2003) argues that the professional competence characteristics of professional accountants should be defined as technical knowledge, behavioral skills, attitudes, professional values and ethics. In the process of formulating the Career Development Manual, the Institute of Chartered Accountants proposed that the core elements of accountant competence mainly include four aspects, namely, more effective personal work, professional skills, leadership and business management.

Chinese research on competency theory came slightly later and began in the late 1980s. For example, Shi Kan et al. (2002) adopted the BEI behavior event interview technology to discuss the competency characteristic model of senior managers in China's communication industry; Zhang Kai et al. (2004) made a scientific prediction on the talent competency model and human resource management innovation; Lin Lijie et al. (2006) adopted the detection survey method to determine the individual competence elements of university knowledge workers, And make a descriptive comparative statistics of the importance of each capability element; Liu (2009) Through the improvement of the relevant accounting professional competence framework, Analyzing China's vocational competence framework system, Put forward relevant suggestions on how to improve the cultivation of accountant's competence, For example: courses, Case study and simulation teaching, Special lectures, etc. Hu (2009) in the form of questionnaire survey, through the structure of Chinese accountant professional competence and influencing factors, the differences of accountant professional competence between various levels. Then put forward the main methods and ways to improve the professional competence of accountants. Zhang (2010) analyzed the new changes and challenges faced by the internal audit profession, and then built the competency model of the internal audit profession, mainly including four aspects of knowledge, skills, motivation and professional ethics, covering 11 specific elements and many details. Perfect the professional ability framework of internal audit to provide reference for the professional development of internal audit personnel. Chen (2012) collected information from the hospital through a questionnaire survey, including the main functions and performance environment of the chief accountant, and then analyzed the professional competence they should have to build a competency model. The model includes three second-level factors: professional quality, professional quality and management quality, covering 15 three-level elements. However, how to cultivate or improve the professional competence

of the chief accountant from the various elements of the model. Wang (2012) established the professional competency model of accountants in China through empirical analysis and normative analysis, quantitative analysis and qualitative analysis. After the analysis of the accounting professional competence elements in China, the required information is collected and analyzed through behavioral event interview and questionnaire survey. On the basis of factor analysis and related tests, the excellent and qualified accounting models in China are determined respectively, and relevant training suggestions are put forward on this basis.(Qu, Shi & Fan, 2012) On the basis of setting up the internal audit positions, the framework system for building the professional competence of Chinese internal auditors is proposed, which mainly includes two aspects of knowledge and ability, with six specific elements and 53 details. According to the professional competency required by different positions, the significance of building the competency framework system is obtained, which is embodied in the college education stage, work stage, access stage, follow-up education stage and personal career development. Xiang (2012) based on the basic situation of asset appraisal academic education in China, analyzed the importance of application in graduate training in China. At the same time, the author made an in-depth analysis of the competence of the assessors, and made it clear that the cultivation of competence should take academic education as the core, from the training objectives and courses

According to the above scholars on the competency of accountants today, and combined with the World Bank financial reporting reform center (CFRR) (Borgonovo, Friedrich, & Wells, 2019) proposed the importance of accountants from the potential of sustainable financial reporting, and education and training management guidelines for digital and global economy, the competency of digital economy can be summarized as: 1. Technical ability; 2. enabling ability.among, Technical capabilities mainly include: (1) digital technology, (2) Big data and data analysis, (3) robotics and artificial intelligence, (4) Network security, (5) Tax impact, And (6) legal and regulatory requirements; Enabling ability mainly includes: (1) professional and moral behavior, (2) Problem-solving and decision-making, (3) Communication, (4) Self-management, (5) Team work and leadership; Research on accounting competency is still in its early stage in China, This paper focuses on accounting professionals, To study the required competencies of the accounting personnel, Construct the professional competence framework of accounting professionals, And the supply and demand of accounting talents in the era of digital economy, Make the competency framework more suitable for China's national conditions, This is exactly what is the innovation of this article.

Accounting personnel technical competence related research

A series of recent articles reported on the work of the joint working group of the Institute of Management Accountants (IMA) and the American Institute of Accountants, which explored ways to incorporate competency development into the accounting curriculum. Lawson (2014) provide a competency-based educational framework that can be adapted to different accounting career paths. The proposed framework includes accounting capacity, extensive management capacity, as well as basic capacity.

Almost all businesses use the Internet to make financial, tax returns or statistical reporting transactions with their customers. Among them, accountants must take important responsibility for these activities (Georgieva, 2019). Accountants still need knowledge or technical skills, as well as soft skills such as digital capabilities (Gullo, 2019; Moll, & Yigitbasioglu, 2019; Kokina et al., 2019). Gullo (2019) explained that the accounting field, soft skills and technical skills are important and need to be included in the accounting courses and learning. Being a young and intelligent accountant from many of the above studies requires both technical and soft skills (Gullo, 2019; Kokina et al., 2019; Moll & Yigitbasioglu, 2019). According to Stancheva Todorova (2019), Industry 4.0 is changing the structure and scope of the accountant qualification file known as "Accountants 4.0". They must have the knowledge and skills, including (1) digital technology, (2) big data and data analytics, (3) robotics and artificial intelligence, (4) cyber security, (5) tax implications, and (6) legal and regulatory requirements that are a combination of interdisciplinary skills and abilities. Thus, the seven digital skills of the 21st century, including technology, information management, communication, collaboration, creativity, critical thinking, and problem-solving skills. These skills in the field of education and employment require individuals to function effectively as students, workers, and citizens, and can be developed through practice (Van Laar et al., 2019). Ability is an individual able to act in a variety of situations. These competencies indicate the adequacy of knowledge, skills, and attitudes. Digital competence is one of the key capabilities for lifelong learning, which all need to achieve personal achievement and development, employability, social inclusion, sustainable lifestyle, successful life in a peaceful society, healthy life management, and positive citizenship (Orosz et al., 2019). Digital capabilities include confident, critical, and responsible use and participation in digital technologies for learning, work, and participation in society. At the same time, efforts are being made to leverage the potential of digital technology to innovate education and training practices and improve opportunities for lifelong learning (Carretero, Vuorikari, & Punie, 2017). Many parts of the world have attempted to create digital capability / skill frameworks that differentiate these frameworks (Carretero, Vuorikari, & Punie, 2017; Gekara et al., 2019; Lyons et al., 2019; Law et al., 2018).

In the digital economy environment, accounting professionals need to have the competence not only including the traditional accounting technology ability, but

also need to adapt to the rapidly changing business environment and technological development, and have more extensive and in-depth ability and literacy. The following are the technical capabilities that accounting professionals need to have in the digital economy environment:

Digital technology: accounting professionals need to master digital tools and technology, including financial software, data analysis tools, cloud computing, etc., in order to more efficiently process financial data, generate statements, and data mining and analysis, provide better information to help organization planning and budget, promote daily operations and improve efficiency and customer satisfaction, has the ability to analyze data, mining the potential of data, make full use of data for prediction, decision making, improve management decisions.

Big data and data analysis: in the era of digital economy, a lot of data generation and storage, accounting personnel need to have the ability of data analysis, can extract valuable information from huge amounts of data, and be able to clearly explain the meaning of the data, quickly extract effective information and effective management, effectively provide decision support and risk aversion.

Robot and artificial intelligence: accounting professionals need to skilled use of artificial intelligence, can reduce data errors, accurate analysis, improve the efficiency of accounting, to provide better and more accurate data support, provide further data analysis, provide new insights for accounting operations, the accounting data classification, documents can automatically classification, vouchers can be prepared, can issue financial statements.

Network security: optimize the network environment of the operation of the accounting system, enhance the security and confidentiality of the network system, repair network vulnerabilities, ensure the security of enterprise control and accounting data privacy, strengthen the supervision of accounting internal network management and standardize the operation of financial software.

Tax impact: familiar with the process of each link and regulations, to accurate accounting tax obligations, formulate reasonable tax plan, ensure that the enterprise realize legal compliance, have certain legal accomplishment, can make tax returns, tax treatment, tax planning, accurate for tax-related affairs, grasp the tax planning related policies and regulations and the actual situation of the enterprise, make reasonable tax planning scheme.

Legal and regulatory requirements: understand the basic legal and compliance knowledge, ensure that the accounting work complies with the relevant laws and regulations, maintain the authenticity and accuracy of the financial information of the enterprise, and standardize the standardized business behavior of the enterprise. Familiar with national laws, regulations and national unified accounting system, always adhere to the requirements of laws, regulations and national unified accounting system for accounting, the implementation of accounting supervision.

In short, in the digital economy environment, accounting professionals need to have more comprehensive and diversified competence, not limited to traditional accounting technology, but also need to have the ability to adapt to changes, innovative thinking, teamwork, so as to better support the development and success of the organization.

Accounting personnel enabling competence related research

The World Bank's Centre for Financial Reporting Reform (CFRR) (Borgonovo, Friedrich, & Wells, 2019) foresee the importance of accountants to derive the potential for sustainable financial reporting and develop education and training management guidelines for accountants in a digital and global economy, which can be classified as enabling capacity. Enabling includes (1) professional and ethical behavior (2) problem solving and decision making (3) communication (4) self-management (5) teamwork and leadership. Accounting enabling ability means that accounting professionals give full play to their professional knowledge and skills in their work to provide support for the decision-making, operation and management of the organization, so as to enhance the organization's business efficiency and strategic decision-making ability. Accounting enabling capacity emphasizes the role of accounting in achieving organizational goals and missions, not only to traditional financial data processing and reporting, but also to include deep understanding and support for business and strategy. The following are the specific contents of the enabling capabilities that accounting professionals need to have in the digital economy environment:

Professional and ethical behavior: In the era of digital economy, accountants need to follow more laws, regulations and ethical standards to ensure the accuracy and compliance of financial reports, be familiar with accounting business, master professional knowledge, and master accounting technology and methods.

Problem solving and decision-making: be able to analyze financial problems, validate the data of problems and avoid similar problems from happening again, select and evaluate financial solutions and policies through their own professional ability and business skills, effectively evaluate the financial situation and risks of the enterprise, and put forward new financial solutions and suggestions.

Communication: Accounting professionals need good communication skills, to be able to communicate complex financial information to non-professionals in a simple and clear manner, and to have the ability to influence others to promote the formulation and implementation of decisions.

Self-management: effectively plan and manage work time, reasonably allocate tasks successively, ensure that work is completed on time, able to comply with strict ethics, guidelines, and not disclose trade secrets, able to process large amounts of data and information and effectively organize time to ensure that work is completed on time.

Teamwork and leadership: In the digital economy environment, accounting work is closely related to other sectors. Accounting personnel need to have the ability of cross-functional teamwork, and be able to cooperate with marketing, technology, operation and other departments to achieve comprehensive business support. Accounting professionals are able to coordinate with financial problems and play a leading role in the team, guiding other members.

Research on accounting competence in the digital economy era

The emergence of digital economy originated from the third technological revolution based on the Internet, so digital economy is another kind of information economy. Tapscott (1996) first believed that with the development of information technology, the information revolution made digital economy a new economic form based on human intelligent network. Nambisan (2021) believe that the emergence of digital technologies, digital platforms and digital infrastructure has largely changed the way of employment: having a broad impact on value creation and value acquisition. (Szeles & Simionescu, 2020) studied the development of digital and digital economy growth, and found out the policy measures to promote the growth of digital economy in the EU region. Finally, they found that the improvement of higher education performance and the number of patents could significantly improve the development of digital economy. (Balcerzak & Pietrzak, 2017) believes that the construction of effective digital economy infrastructure is the basic condition for middle-income countries to narrow the development gap and improve their international competitiveness, and the digital economy is a tool to support sustainable development and accelerate the process of regional integration. Watanabe (2018) believe that the development of the digital economy has not only brought us benefits, but also brought about a decline in productivity in industrialized countries. GDP has some limitations in measuring the development of the digital economy, and this issue is studied to explore new ways to measure the digital economy. All the studies of the above scholars show that digital economy is one of the main driving forces for economic and social development in the new era, and improving the development level of digital economy can effectively promote social development.

(Li & Tong, 2017) pointed out that digital economy is an economic form brought about by information technology and information technology, and takes data as the factor of production. Since the concept of "digital economy" was put forward in the middle of 1990s, after more than 20 years of rapid development, the information technology revolution has had a huge impact on the economy, and the digital economy has become a prominent feature of the economic form. Digital economy includes three stages: digitalization, networking and intelligence. Among them, digitization is the digitization of information, which directly generates the digital information or the digital already generated information through the Internet;

intelligence is the automatic analysis and processing of intelligent equipment on the basis of independently collecting and analyzing a large amount of digital information. At present, the world as a whole is in the network stage.

In 2020, the COVID-19 epidemic brought challenges to the practice of accountants. Wang (2020) pointed out that the rapid development of new technologies such as big data, cloud computing, artificial intelligence and blockchain in China has made digital transformation a hot spot. The promotion of COVID-19 to telecommuting and education has further accelerated the digital transformation of the economy and society. From the long-term countermeasures, the accounting industry must adapt to the changes brought about by the digital economy and combine information technology with audit theory to cope with the challenges of the development of The Times.

Based on the perspective of the digital economy era, Li (2019) pointed out that the challenges facing accountants in the digital economy era are mainly the challenges brought by emerging technologies such as big data, cloud computing, artificial intelligence and blockchain. In order to better meet the challenges, accountants must update their management knowledge structure, improve their data analysis ability and skills in applying related software. In order to cope with the steady growth of big data and cloud computing, Pei (2020) analyzed the causes of risks of accounting firms under the background of big data, and pointed out that one of the main reasons is the lack of big data accounting talents, the lack of accounting analysis ability, and the weak ability of accounting application software to analyze data; therefore, it is necessary to cultivate technical compound accounting talents. In terms of artificial intelligence, Ke (2020) pointed out that has realized the automatic generation of working papers, letters, sampling and report generation. Accountants can let artificial intelligence do heavy and repetitive standard work, and concentrate on time and energy to create greater value; KPMG (2020) also applied innovative technology to data processing and analysis, and cultivate digital talents; In November 2019, Deloitte Accounting and Certification Department of China also established China Robotics Center of Excellence. In the era of digital economy, foreign accounting firms constantly conduct audit innovation. In the influence of blockchain technology on the practice of accountants, Wang (2020) pointed out that blockchain technology has brought great changes to the working objects and working environment of accountants. Accountants should not only learn mathematics and statistics, but also master the use of data analysis software tools.

Internationally, accounting professional group is also actively respond to the new needs of the digital era of the economy, li (2020) analyzes the latest development of foreign accounting industry informatization and experience, points out that in response to the external environment informatization, digital disruptive change situation, improve and cultivate the CPA knowledge reserves and corresponding

Professional ability, foreign accountant training, examination and certification appeared corresponding changes. AICPA and the Institute of Chartered Accountants of England and Wales will include data analysis (Data Analytics) in the exam from 2021, and accountants are increasingly focusing on knowledge and ability related to technology. In February 2020, the International Code of Professional Ethics Council for Accountants issued Technology Initiative, Phase 1 Final Report. The report notes that the ACCA believes that the dissemination of digital technology has a significant impact on professional accountants and financial professionals. To adapt to the digital age, professional accountants will need to strengthen the integration of their technical and professional skills in the areas of emotional intelligence, ethics, communication, agility, and leadership. CAANZ believes that the four most important skills for future accounting industry ratings are: problem solving, communication skills, collaboration, and the ability to process data and the latest technology

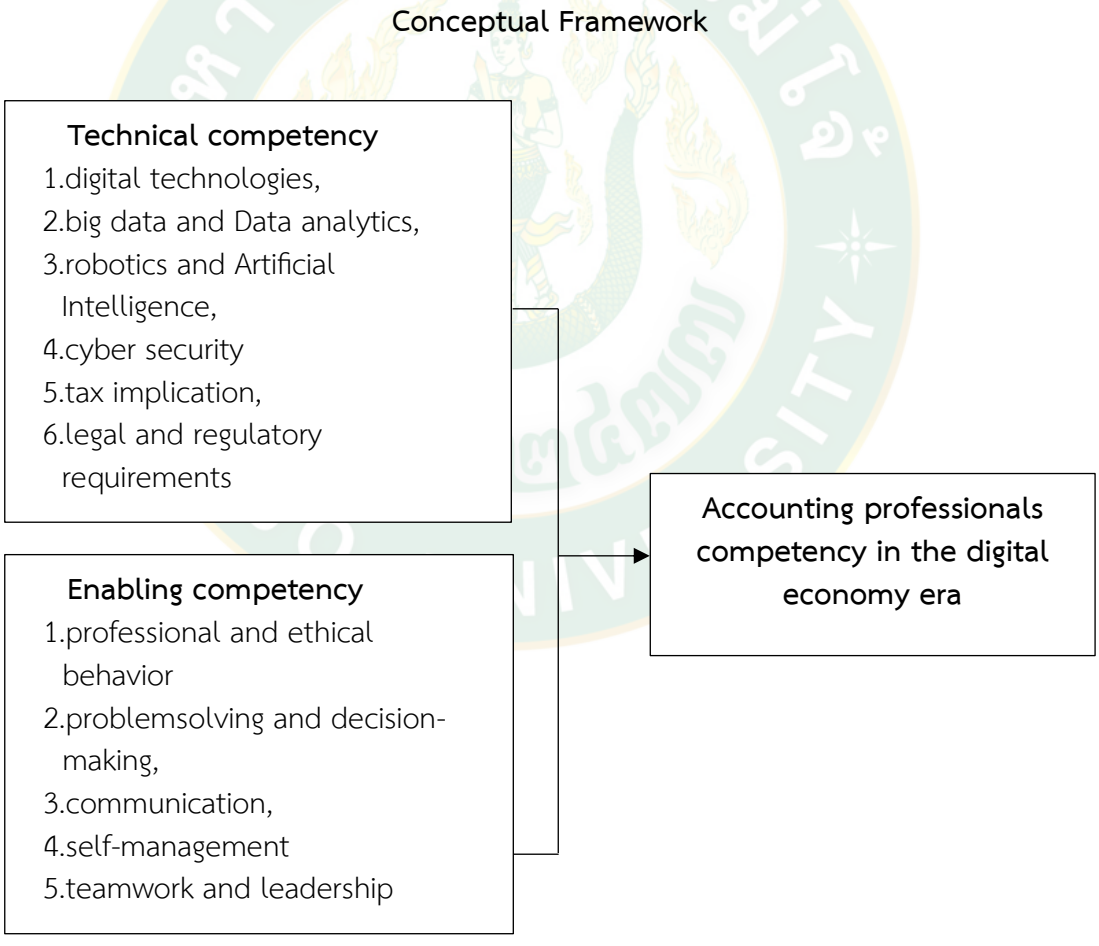

Figure 3 Conceptual Framework

CHAPTER III
METHODOLOGY

The objective of this chapter is to describe and explain the research procedure of this study, which is aimed at answering the following research questions:

What accountants should be able to do in the digital economy

The details of this chapter include: (1) Population and Sampling; (2) pretest process and results with scale reliability and validity; and (3) an introduction to the main study.

Population and Sampling

Population

The subjects of this study are 11,765 enterprises in Guangxi province, including agricultural products and food industry, consumer products industry, consumer products industry, real estate and construction industry, industrial industry, financial industry, service industry, technology industry, etc. The main survey personnel are these enterprises, such as CEOs, chief financial officers, accounting managers, human resources managers, etc.

This research is an investigation and research, selecting managers from different industries, so that the research involves all fields as far as possible to ensure the data basis of the research.

Sampling (n=414)

This study focuses on CEOs, CFO, accounting managers, and HR managers in different industries. The population sample was calculated using the formula proposed by Yamane (1967), and business managers were selected for questionnaires.

Formula for known samples: n= N / 1 + N (e) 2

N=11765

n= 414

Standard Error (e) = 5%

Therefore, n = (11765/1)+11765*(0.05)2 = 414, which is approximately 414 respondents.

The questionnaire was distributed to the CEOs, chief financial officers, accounting managers and human resources managers of various industries, and the questionnaire was conducted in the form of questionnaire star. Due to the accuracy and completeness of the data, the actual number of questionnaires collected was higher than the number of samples obtained by the formula. Therefore, a total of 420 electronic questionnaires were collected in this survey, of which 414 were valid

questionnaires obtained after screening. The questionnaire recovery situation is shown in Table 1:

Table 1 Questionnaire recovery

Number	Industry	Quantity issued	effective quantity	questionnaire form
1	Agro & Food Industry	70	63	electronic version
2	Consumer Products	60	52	electronic version
3	Property & Construction	50	48	electronic version
4	Industrials	60	51	electronic version
5	Financials	60	60	electronic version
6	Resources	50	28	electronic version
7	Services	70	61	electronic version
8	Technology	60	51	electronic version
Total		480	414	

In order to improve the efficiency and effectiveness of the questionnaire distribution, I contacted some enterprise managers, human resource managers and accounting managers in advance for matching the questionnaire. My leaders, colleagues and friends provided help to help distribute the questionnaire and exchange questions, so as to improve the quality and efficiency of the questionnaire.

Sampling method

In this study, non-probability sampling method was used to draw respondents from the target group. Non-probability sampling is a method of sampling based on convenience or subjective judgment of the sample. Non-probability sampling mainly includes chance sampling, subjective sampling, quota sampling, snowball sampling and so on. The sampling process is divided into three steps: in the first step, questionnaires are distributed to the employees of the NewBoG Talent Network, and they are asked to help distribute questionnaires to the group's business managers, and they are asked to help distribute questionnaires. In the second step, convenience sampling method was used. The method distributes the questionnaires to the top

managers of Guangxi enterprises for the researcher to review; in the third step, the respondents who received the questionnaires are distributed to the CEO, CFO, accounting manager, human resource manager, etc. of this enterprise, who will sample the sample by snowballing. Snowball sampling method is a method used when the sample is difficult to find. It involves the researcher finding a number of study participants and then asking them to help find similar respondents. (QesumonPro, N.D.)

Measurement of Variables

Based on the content of this study, the specific measurement items of each variable were developed, as shown in Table 2 below:

Table 2 Variable measurement items and reference sources

Variable	Codes	Measurement item	reference source
Digital Technique (DT)	DT1	Can provide better information to help organizations plan and budget, facilitate day-to-day operations, and improve efficiency and customer satisfaction.	Stancheva-Todorova (2019)
	DT2	With the ability to analyze data, tap the potential of data, make full use of data to predict and make decisions, and improve management decisions.	
	DT3	Can be familiar with the use of financial software, generate financial statements more easily and quickly, generate vouchers quickly, get familiar with the needs of business processes and business decision-making, plan for business data, and improve the accuracy of data.	

Table 2 (Continued)

Variable	Codes	Measurement item	reference source
Big data and Data analysis (BD)	BD1	It can quickly extract effective information and manage, effectively provide decision support and risk avoidance for the organization.	Stancheva-Todorova (2019)
	BD2	Have analytical thinking ability, help to obtain relevant information from financial data and be used to prepare financial reports, and be good at interpreting figures and data.	
	BD3	Ability to convert large amounts of data into visually attractive charts and graphics to better demonstrate the implications and trends of the data.	
Robotics and Artificial intelligence (RA)	RA1	It can reduce data errors, achieve accurate analysis, improve accounting efficiency, provide better and more accurate data support for decision-making, provide more in-depth data analysis, and provide new insights for accounting operations.	Stancheva-Todorova (2019)
	RA2	Ability to perform comprehensive analysis to improve the quality of forecast data, thereby enhancing budget and strategic management processes.	
	RA3	Accounting data can be classified, vouchers can be automatically classified, vouchers can be prepared, and financial statements can be issued.	
Network Security (NS)	NS1	It can repair network vulnerabilities and ensure the security of enterprise control and accounting data privacy.	
	NS2	Strengthen the accounting internal network management supervision and standardize the operation of financial software.	Stancheva-Todorova (2019)

Table 2 (Continued)

Variable	Codes	Measurement item	reference source
	NS3	It has the ability to optimize the network environment of the accounting system operation and enhance the security and confidentiality of the network system.	
Tax Effects (TE)	TE1	Have a certain legal literacy, can do a good job in tax declaration, tax treatment, tax planning, accurate handling of tax-related affairs.	Stancheva-Todorova (2019)
	TE2	Master the relevant policies and regulations of tax planning and the actual situation of the enterprise, and formulate reasonable tax planning plans.	
	TE3	Familiar with the procedures and regulations of each link of tax, able to accurately calculate tax obligations, formulate reasonable tax payment plans, and ensure that enterprises achieve legal and compliant tax payment.	
Laws and Regulations require (LE)	LE1	Can understand the legal requirements, according to the improvement of enterprise financial management and internal control requirements to formulate and implement the enterprise accounting system.	Stancheva-Todorova (2019)
	LE2	The provisions of account books and statements shall ensure the accuracy and legality of accounting.	
	LE3	It can maintain the authenticity and accuracy of enterprise financial information, and standardize the standard business behavior of enterprises. Familiar with national laws, regulations and national unified accounting system, always adhere to the requirements of laws, regulations and national unified accounting system for accounting, the implementation of accounting supervision.	

Table 2 (Continued)

Variable	Codes	Measurement item	reference source
Professional and Ethical behavior (PE)	PE1	Can abide by the standards, act in accordance with the law, and carry out the work in accordance with the national laws and regulations.	Stancheva-Todorova (2019)
	PE2	Love the work, conduct correctly, abide by the social ethics.	
	PE3	Familiar with accounting business, proficient in professional knowledge, master accounting technical methods.	
Solve problems and Make decisions (SM)	SM1	Can analyze and verify the data of financial problems to avoid the recurrence of similar problems.	Stancheva-Todorova (2019)
	SM2	Can select and evaluate financial plans and policies through their own professional ability and business ability.	
	SM3	Effectively evaluate the financial situation and risks of enterprises, and put forward new financial solutions and suggestions.	
Communion (CO)	CO1	Ability to work with other departments, manage conflicts, and adapt to changing environments.	Stancheva-Todorova (2019)
	CO2	Be able to interpret complex financial concepts in ways that are understandable to non-accountants.	
	CO3	The ability to communicate complex accounting methods and processes to non-accountants remains a key priority for the organization.	
Self-Management (SM)	SM1	Be able to allocate time and resources appropriately to reduce work stress and maintain accounting professionalism.	Stancheva-Todorova (2019)
	SM2	Be able to adhere to strict ethical guidelines, follow guidelines and not disclose trade secrets.	
	SM3	Be able to process lots of data and information and effectively organize time to ensure that work is done on time.	

Table 2 (Continued)

Variable	Codes	Measurement item	reference source
Team spirit and leadership (TI)	TI1	Be able to manage the team and trust and respect employees, build harmonious team relationships, and promote appropriate accounting knowledge sharing.	Stancheva-Todorova (2019)
	TI2	Be able to connect with and cooperate with people from different professional backgrounds to build good working relationships.	
	TI3	Can organize and implement the tasks in the accounting field, promote the development of enterprises, and make the financial work more efficient, accurate and reliable.	
Digital technique (DT)	DT1	I think digital technology can enable us to complete tasks faster and more accurately, and improve work efficiency.	Stancheva-Todorova (2019)
	DT2	I think having digital literacy skills allows us to better communicate and cooperate digitally.	
	DT3	My digital technology can improve the ability to obtain and evaluate accounting information.	
Big data and data analysis (BD)	BD1	Big data and data analysis can allow us to quickly extract effective information and manage it.	Stancheva-Todorova (2019)
	BD2	Big data and data analysis can provide opportunities for making decisions and help them avoid risks.	
	BD3	Big data and data analysis can validate the results for accountants.	
Robotics and artificial intelligence (RH)	RH1	Artificial intelligence can save money on labor costs and reduce human error.	
	RH2	The AI is capable of processing and analyzing large amounts of accounting data.	Stancheva-Todorova (2019)
	RH3	Artificial intelligence can use automation technology to replace humans in some repetitive and tedious work, thus improving efficiency and accuracy.	

Table 2 (Continued)

Variable	Codes	Measurement item	reference source
Network security (IS)	IS1	Whether the network security can optimize the operating environment of the network accounting system and enhance the security and confidentiality of the network system	Stancheva-Todorova (2019)
	IS2	Whether network security can strengthen internal management supervision, standardize network accounting behavior.	
	IS3	Whether network security can strengthen internal management supervision, standardize network accounting behavior.	
Tax effects (TE)	TE1	Tax taxes affect business cash flow。	
	TE2	Tax revenue affects the investment decisions of enterprises.	Stancheva-Todorova (2019)
	TE3	Tax revenue affects the profit distribution of enterprises.	
Laws and regulations require (LD)	LD1	Accounting laws and regulations are conducive to ensuring the authenticity and accuracy of enterprise financial information.	Stancheva-Todorova (2019)
	LD2	Accounting laws and regulations help enterprises to standardize their business behavior and operate legally and legally.	
	LD3	Accounting laws and regulations are helpful to promote the development of the national economy.	
Professional and ethical behavior(PE)	PE1	Accounting professional ethics can guide the accounting behavior direction of accounting personnel.	Stancheva-Todorova (2019)
	PE2	Accounting professional ethics can promote the coordination of accounting personnel, quality and quantity, timely completion of accounting work	
	PE3	Accounting professional ethics can promote the coordination of accounting personnel, quality and quantity, timely completion of accounting work	

Table 2 (Continued)

Variable	Codes	Measurement item	reference source
Solve problems and make decisions (SD)	SD1	Accounting decision-making can strengthen the guarantee of enterprise management foresight.	Stancheva-Todorova (2019)
	SD2	Accounting decision-making is the basis for the business activities of enterprises	
	SD3	Accounting decision-making can realize the optimal allocation of enterprise resources	
communion (HC)	HC1	Effective communication can improve the accounting work efficiency.	Stancheva-Todorova (2019)
	HC2	Effective communication can save the information cost.	
	HC3	Effective communication can enhance the standardization and accuracy of accounting data and information.	
self-management (SM)	SM1	Self-management can effectively improve the efficiency of accounting work.	Stancheva-Todorova (2019)
	SM2	Self-management can effectively improve their own comprehensive ability.	
	SM3	Self-management can effectively update your comprehensive management skills.	
Team spirit and leadership (GL)	GL1	Team spirit can enhance team cohesion	Stancheva-Todorova (2019)
	GL2	Team spirit promotes knowledge sharing.	
	GL3	Team spirit can make financial accounting work more efficient, accurate and reliable.	

Research Instrument

The survey for this study was conducted through the online questionnaire survey platform "Questionnaire Star". According to the survey purpose of this study as well as the actual situation and theoretical basis, the questionnaire is divided into four parts:

Part 1: Mainly including the basic information of the interviewees, such as gender, age, education background, and position;

Part 2: Mainly including the basic overview of the enterprise, including the industry, scale, nature, and establishment period of the enterprise;

Part 3: Summarized the statistical results of the mean and standard deviation of all factors. The scale adopts the Likert scale, and the scoring criteria are as follows:

Rating scale	Meaning
5	Strongly agree
4	Agree
3	Neutral
2	Disagree
1	Strongly disagree

Part 4: Open ended questions.

Measurement of Variable

In this study, we also conducted a preliminary survey of the respondents using statistical software. The questionnaire was constructed according to the model, incorporating some scales of scholars. After the localization and translation of the questionnaire, a prediction was made on the questionnaire to ensure the basic reliability and validity of the questionnaire, and then the questionnaire was put into use. To ensure the validity and reliability of the questionnaire, we used online electronic questionnaires to conduct surveys, mainly through WeChat, QQ and other platforms. In order to verify the reliability and validity of the questionnaire, 30 questionnaires were randomly distributed to the targeted sampling group to test the instrument and then conducted reliability and validity analysis on them.

Reliability Test

Reliability testing is a method used to evaluate the reliability and stability of measurement tools. The most commonly used reliability coefficient is the "Cronbach Alpha" coefficient. The larger the coefficient, the more stable and reliable the questionnaire is. According to the needs of the research, this study uses SPSS 26.0 to measure the reliability of the scale, check the consistency of the scale items in the research design, and whether the items can stably measure the corresponding dimensions. If the reliability coefficient reaches 0.7, it indicates good internal consistency (Cronbach, 1951). If the Cronbach's Alpha coefficient after deleting a certain item is greater than the Cronbach's Alpha coefficient of the dimension, it means that after removing this item, the reliability coefficient of the scale will increase, and the item should be deleted.

This study conducted a reliability test on the scale used in the questionnaire to ensure the reliability of the study. The reliability analysis results of the measurement items of Digital technique, Big data and data analysis, Robotics and artificial intelligence, Cyber security, Tax implication, Legal and regulatory

requirements, Professional and ethical behavior, Problemsolving and decision-making, Communication, Self-management and leadership are shown in Table 3:

Table 3 Reliability analysis results of the questionnaire

Variable	Item	Cronbach's Alpha Coefficient
Digital technique	3	0.797
Big data and data analysis	3	0.808
Robotics and artificial intelligence	3	0.859
Cyber security	3	0.909
Tax implication	3	0.904
Legal and regulatory requirements	3	0.925
Professional and ethical behavior	3	0.910
Problemsolving and decision-making	3	0.922
Communication	3	0.858
Self-management	3	0.886
Teamwork and leadership	3	0.954

In summary, the Cronbach's Alpha coefficients of the eleven scales are all greater than 0.7, indicating that the questionnaire has high reliability, so further empirical analysis can be done (Sürücü & MASLAKÇI, 2020).

Validity Test

Validity test is a method used to test whether it can accurately reflect the required measurement content. The higher the validity, the higher the degree of the measurement tools used in the research can accurately reflect the content to be measured; otherwise, the lower the degree of measurement. Among them, "factor analysis" is one of the most commonly used methods for construct validity analysis, that is, using the "dimensionality reduction" method to select some common factors from the items in the research design, and these common factors represent the basic structure of the questionnaire. The KMO value ranges from 0 to 1. If the KMO value is above 0.6, it means that these items are suitable for factor analysis, and the closer to 1, the more suitable it is (Smits, 2008). The results of KMO and Bartlett test are shown in Table 4.

Table 4 Results of KMO and Bartlett's Test

Variable	KMO	Bartlett's Test of Sphericity		
		Approx. Chi-Square	df	p-value
Digital technique	0.755	50.262	3	0.00
Big data and data analysis	0.766	53.687	3	0.00
Robotics and artificial intelligence	0.698	30.467	3	0.00
Cyber security	0.730	44.815	3	0.00
Tax implication	0.749	39.725	3	0.00
Legal and regulatory requirements	0.741	49.571	3	0.00
Professional and ethical behavior	0.724	43.798	3	0.00
Problemsolving and decision-making	0.748	47.734	3	0.00
Communication	0.737	28.330	3	0.00
Self-management	0.711	37.996	3	0.00
Teamwork and leadership	0.766	65.840	3	0.00

From Table 4, KMO with a value of 0.755> 0.6, Significant P-value was less than 0.001, It shows that this variable is suitable for further factor analysis; KMO values for big data and data analysis were 0.766> 0.6, Significant P-value was less than 0.001, It shows that this variable is suitable for further factor analysis; The KMO value of the robot and the AI was 0.698> 0.6, Significant P-value was less than 0.001, It shows that this variable is suitable for further factor analysis; The KMO value for network security is 0.730> 0.6, Significant P-value was less than 0.001, It shows that the network security scale is suitable for further factor analysis; KMO values for the tax impact of 0.749> 0.6, Significant P-value was less than 0.001, It shows that the tax influence is suitable for further factor analysis; The KMO value required by laws and regulations is 0.741> 0.6, Significant P-value was less than 0.001, It shows that laws and regulations are suitable for further factor analysis; The KMO value for professional ethical behavior was 0.724> 0.6, Significant P-value was less than 0.001, It shows that the professional ethical behavior is suitable for further factor analysis; KMO for problem solving and decision was 0.748> 0.6, Significant P-value was less than 0.001, It shows that problem solving and decision-making are suitable for further factor analysis; The KMO value for the communication was 0.737> 0.6, Significant P-value was less than 0.001, It shows that the communication is suitable for further factor analysis; The KMO value for self-administration was 0.711> 0.6, Significant P-value was less than 0.001, Self-management is suitable for further factor analysis; The KMO

value for teamwork and leadership was 0.711> 0.6, Significant P-value was less than 0.001, Team work and leadership are suitable for further factor analysis; in summary, The total volume table has good validity.

Through the reliability and validity analysis of 20 questionnaires collected in the pretest, the scales of all 11 dimensions had good reliability and structure validity, which could be applied as a measurement tool for formal studies.

Research Instrument

The secondary data for this research study were obtained from various sources including previous studies, journals, and other Internet sources. We collected primary data for this study. From Guangxi enterpriseby designing a questionnaire. The data were collected for this study using a random sampling method. By applying the formula, the data were collected on 414 Accounting manager or HR of Science and Technology.

1. Inspection of survey data

After collecting all the questionnaires, we need to check the completeness and accuracy of the questionnaires. The completeness check of the questionnaire is to check the sampling units and survey items of the sample, and check whether any sampling unit has not participated in the survey (including the pretesting stage) or whether all the survey items have been filled. The second is to check the accuracy of the questionnaire. The accuracy check is mainly to correct the outliers caused by the filling errors of the fillers or the deviation in the understanding of the questionnaire.

2. Data coding and entry

Due to the use of questionnaires for investigation, the questionnaires need to be coded. When setting the code, the two characteristics of generality and exclusion must be satisfied. Generality requires that for each answer on the questionnaire, its corresponding value should be found on the code table. Exclusiveness requires that the content represented by different coded values cannot appear Repetition and crossover and answers to the same questionnaire can only correspond to one coded item. Coding mainly saves cost and time, reduces the workload during data entry, and greatly improves work efficiency. After data coding, the collected data can be easily entered. All the data of this survey are entered into SPSS to facilitate the next step of data analysis

3. Data purification and missing value processing

After data entry, data cleaning is required. And check whether there are inconsistencies; whether there are logical errors, whether there is random filling in the questionnaire. For random filling, we mainly consider the following two aspects: first, whether the filling time is reasonable, short, or long filling time is unreasonable, and we need to focus on it; second, judge from the distribution of options. There is a

certain regularity in the scoring of options or all measurement dimensions. For example, the score distribution of each dimension is the same, and the score of a single dimension appears cyclically.

In this study, the following two methods are mainly used to deal with missing values. One is to directly eliminate questionnaires with many missing values. The second is that for questionnaires with only individual or a few missing values, this study uses the mean value or the mode instead. This is because the sample size of this survey is relatively large, and it is reasonable to use the centralized mean value instead.

Descriptive Statistical Analysis

Descriptive statistical analysis is a systematic method that uses relevant statistical analysis software to collate, interpret and analyze data. This study mainly analyzes two aspects of the questionnaire, one is the basic characteristics of the sample, and the other is the descriptive statistics of variables.

To interpret the meaning, the A Scale to Measure the Priority Criteria Relative Important of Choice Criteria was used to determine average values (James E. Nelson, 1982: 18) as follows:

Average score	Level
between 4.21 - 5.00	Highest
between 3.41 - 4.20	High
between 2.61 - 3.40	Moderate
between 1.81 – 2.60	Low
between 1.00 - 1.80	Lowest

CHAPTER IV
RESULTS

This chapter presents the results of a survey sample of 414 respondents who met our target criteria. In August 2023, the data were collected. The findings were divided into descriptive statistics and analysis of open-ended questions. SPSS is used to analyze the competence of accounting talents in the era of digital economy.

Descriptive Statistics

General Demographic Description

The basic statistics of the sample are shown in Table 5:

Table 5 Demographic Characteristics of the sample (N=414)

Variable	Classification	Frequency	Percentage
Gender	Male	184	44.44
	Female	230	55.56
Age	20-30years old	111	26.81
	30-40 years old	184	44.44
	40-50 years old	65	15.70
	over 50 years old	54	13.04
Education	Undergraduate or below	101	24.40
	Bachelor Degrees	260	62.80
	Master Degrees	34	8.21
	Doctoral Degrees	19	4.59
Position	CEO	108	26.09
	Chief Finance Officer	96	23.19
	Human Resource Manager	137	33.09
	Accounting manager	73	17.63

Table 5 shows that the demographic characteristics of the study sample and the gender distribution of the sample were relatively balanced, with 44.44% male and 55.56% female. In terms of age, 26.81% aged 20 – 30,4 4.44% aged 30 – 40,15.7% aged 40 – 50, and 13.04% over 50. In terms of education level, 24.4% have a bachelor's degree, 62.8% have a bachelor's degree, 8.21% have a master's degree and 4.59% have a doctor's degree. In terms of position, CEO accounted for 26.09%, finance director accounted for 23.19%, human resource managers accounted for 33.09%, and accounting managers accounted for 17.63%.

In addition, this study included descriptive statistics on the company overview, as detailed in Table 6.

Table 6 Company Overview Characteristics of the sample:

Variable	Classification	Frequency	Percentage
Company Industry	Agro & Food Industry	63	15.22
	Consumer Products	52	12.56
	Property & Construction	48	11.59
	Industrials	51	12.32
	Financials	60	14.49
	Resources	28	6.76
	Services	61	14.73
	Technology	51	12.32
company size	1-50 staff	103	24.88
	50-100 staff	137	33.09
	100-200 staff	95	22.95
	More than 200 staff	79	19.08
Enterprise nature	State enterprise	98	23.67
	Private enterprise	163	39.37
	Government organization	83	20.05
	Industry associations	70	16.91
Years of establishment of the enterprise	1-5 years	103	24.88
	5-10 years	130	31.4
	10-15 years	87	21.01
	Over 15 years	94	22.71

Table 6 shows that the characteristics of the company in the study sample are relatively balanced. From the perspective of the industry distribution of the company, agriculture and food industry accounted for 15.22%, consumer goods industry for 12.56%, real estate and construction industry for 11.59%, industrial industry for 12.32%, financial industry for 14.49%, energy industry for 6.76%, service industry for 14.73%, and technology industry for 12.32%. From the perspective of company size distribution, the company has 1-50 employees account for 24.88%, 51-100 employees account for 33.09%, 100-200 employees account for 22.95%, and more than 200 employees account for 19.08%. In terms of the distribution of companies, state-owned enterprises accounted for 23.67%, private enterprises accounted for 39.37%, Sino-foreign joint ventures accounted for 20.05%, and social organizations accounted for 16.91%. From the perspective of the establishment period of the company, 24.88% accounted for 1-5 years, 31.4% for 6-10 years, 21.01% for 11-15 years, and 22.71% for more than 15 years.

Descriptive Results of the Variables

Table 7 Summary of average values and levels of all factors related to technical competency

Variables	Mean	SD	Level
Digital Technique (DT)	3.27	1.03	Moderate
Big data and Data analysis (BD)	3.27	0.92	Moderate
Robotics and Artificial intelligence (RA)	3.28	0.95	Moderate
Network Security (NS)	3.27	0.94	Moderate
Tax Effects (TE)	3.26	0.97	Moderate
Laws and Regulations require (LE)	3.28	0.96	Moderate

Table 7 summarizes the statistical results of the average and standard deviation of all factors related to technical capability. Research has found that the majority of respondents believe that robots and artificial intelligence (RA), as well as legal and regulatory requirements (LE), are the most needed enabling abilities for accounting professionals in the digital economy era, with an average value of 3.28; The average value of Digital Technology (DT), Big Data and Data Analysis (BD), and Network Security (NS) is 3.27; The average tax impact (TE) is 3.26. Their level is all at a moderate level.

Table 8 Mean values of factors related to technological capabilities of firms in various industries

	DT	BD	RA	NS	TE	LE
Agro	3.07	3.1	3.22	3.13	3.15	3.15
Consumer	3.57	3.69	3.46	3.53	3.57	3.53
Property	3.46	3.35	3.33	3.29	3.29	3.33
Industrial	3.02	3.12	3.06	3.17	2.97	2.99
Financial	3.2	3.19	3.19	3.17	3.23	3.24
Resources	2.95	2.77	2.92	2.89	2.87	2.99
Services	3.61	3.61	3.59	3.66	3.54	3.65
Tech	3.19	3.10	3.25	3.20	3.24	3.23

Table 8 summarizes the statistics of the mean values of the factors related to technological competencies of companies in various industries. According to the survey, managers in the agriculture industry believe that robotics and artificial intelligence are the most important technological competencies needed by accounting professionals in the digital economy with a mean of 3.22; managers in the

consumer goods industry believe that big data and data analytics skills are more important with a mean of 3.69; managers in the real estate industry believe that digitalization technologies are more important with a mean of 3.46; managers in the industrial industry Cybersecurity is more important with an average value of 3.17; Legal and regulatory requirements are more important with an average value of 3.24; Energy managers are neutral on all competencies with an average value of less than 3; Service managers consider Cybersecurity more important with an average value of 3.66; Robotics and Artificial Intelligence are more important with an average value of 3.25. The average value is 3.25; in summary, robotics and artificial intelligence and cybersecurity are the more important skills for business managers.

Table 9 Mean values of technical capacity factors by firm size

	DT	BD	RA	NS	TE	LE
1-50	3.35	3.37	3.32	3.34	3.34	3.36
50-100	3.34	3.35	3.33	3.30	3.30	3.38
100-200	3.09	3.13	3.15	3.23	3.15	3.14
Over 200	3.29	3.19	3.28	3.21	3.23	3.20

Table 9 summarizes the statistical results of the mean values of the technical capability factor for firm size. According to the survey, companies with 1-50 employees consider big data and data analytics to be more important with an average value of 3.37; companies with 50-100 employees consider legal and regulatory requirements to be more important with an average value of 3.38; companies with 50-100 employees consider cybersecurity to be more important with an average value of 3.23; companies with more than 200 employees consider digital technology to be more important with an average value of 3.23; in summary, different enterprise sizes have different requirements for technological capabilities. Companies with more than 200 employees consider digital technology to be more important, with an average value of 3.23; in summary, companies of different sizes have different requirements for technological capabilities.

Table 10 Mean values of the technical capacity factor for the nature of the enterprise

	DT	BD	RA	NS	TE	LE
State	3.39	3.39	3.40	3.45	3.36	3.47
Private	3.55	3.56	3.51	3.54	3.53	3.51
Government	2.99	2.99	3.04	2.90	2.92	2.95
Industry	2.83	2.77	2.84	2.87	2.88	2.90

Table 10 summarizes the statistical results of the mean values of the factors of technological capabilities of the nature of the enterprise. According to the survey, it is found that the nature of the enterprise is state-owned enterprises consider legal and regulatory requirements to be more important with a mean value of 3.47; the nature of the enterprise is private enterprises consider big data and data analytics to be more important with a mean value of 3.56; the nature of the enterprise is governmental organizations consider robotics and AI to be more important with a mean value of 3.04; and the nature of the enterprise is industry associations consider legal and regulatory requirements to be more important with an The average value of legal and regulatory requirements is 2.90; to summarize, legal and regulatory requirements are the skills that are more important to different business natures.

Table 11 Mean values of the technical capacity factor for the year of establishment of the enterprise

	DT	BD	RA	NS	TE	LE
1-5	3.39	3.37	3.25	3.26	3.31	3.30
5-10	3.47	3.51	3.52	3.56	3.48	3.48
10-15	3.06	2.99	3.09	3.01	3.08	3.10
Over 15	3.08	3.09	3.15	3.15	3.16	3.06

Table 11 summarizes the statistical results of the mean value of the technological capability factor for the year of establishment of the firms. According to the survey, companies with 1-5 years of establishment consider digital technology to be more important with an average value of 3.39; companies with 5-10 years of establishment consider cybersecurity to be more important with an average value of 3.56; companies with 10-15 years of establishment consider legal and regulatory requirements to be more important with an average value of 3.10; companies with more than 15 years of establishment consider tax implications to be more important with an average value of 3.16; to summarize, the requirements for technological capabilities vary with the age of establishment. The average value of tax impacts is 3.16; in summary, the requirements for technical capabilities vary depending on the age of the company.

Table 12 Summary of average values and levels of all factors related to enabling competency

Variables	Mean	SD	Level
Professional and Ethical behavior (PE)	3.32	0.98	Moderate
Solve problems and Make decisions (SM)	3.30	0.95	Moderate
Communion (CO)	3.33	0.93	Moderate
Self-Management (SM)	3.36	0.95	Moderate
Team spirit and leadership (TI)	3.32	0.94	Moderate

Table 12 Statistical results of mean and standard deviations for to enabling competency all factors are summarized. Research finding, The majority of respondents believed that self-management ability (SM) is the most needed enabling competency for accounting professionals in the digital economy era, The mean value was 3.36; The second is that communication ability was 3.33; Professional and Ethical behavior (PE) and team spirit and leadership (TI) averaged 3.32; Problem solving and decision making (SM) average of 3.30. And their levels are all at medium levels.

Table 13 Average values of enabling capacity related factors for companies in various industries

	PE	SM	CO	Self	TI
Agro	3.23	3.29	3.22	3.28	3.21
Consumer	3.56	3.57	3.55	3.50	3.58
Property	3.32	3.32	3.46	3.59	3.37
Industrial	3.21	3.15	3.08	3.15	3.20
Financial	3.21	3.24	3.25	3.18	3.20
Resources	3.06	2.93	2.95	3.03	2.89
Services	3.68	3.64	3.64	3.67	3.67
Tech	3.15	3.06	3.29	3.35	3.21

Table 13 summarizes the statistics of the mean values of the factors related to the enabling competencies of companies in various industries. According to the survey, managers in the agriculture industry believe that professional and ethical behavior is the most important enabling competency for accounting professionals in the digital economy with a mean of 3.22; managers in the consumer goods industry believe that teamwork and leadership are more important with a mean of 3.58; managers in the real estate industry believe that self-management is more important with a mean of 3.59; managers in the industrial industry believe that professional and ethical behavior was 3.21; communication was 3.25; energy was 3.06; services was

3.68; and self-management was 3.25. 3.25; in summary, professional and ethical behavior is a more important skill for business managers.

Table 14 Mean values of enabling capacity factors by firm size

	PE	SM	CO	Self	TI
1-50	3.39	3.32	3.30	3.44	3.29
50-100	3.40	3.32	3.49	3.46	3.47
100-200	3.16	3.24	3.23	3.25	3.23
Over 200	3.30	3.32	3.21	3.23	3.20

Table 14 summarizes the statistical results of the mean values of the firm size enabling capacity factors. According to the survey, it is found that companies with 1-50 employees consider self-management to be more important with a mean value of 3.44; companies with 50-100 employees consider communication to be more important with a mean value of 3.49; companies with 50-100 employees consider self-management to be more important with a mean value of 3.25; companies with more than 200 employees consider professionalism and ethical behavior is more important with a mean of 3.32; in summary, self-management is a more important skill for business managers.

Table 15 Mean values for the nature of business enabling capacity factor

	PE	SM	CO	Self	TI
State	3.51	3.43	3.53	3.51	3.45
Private	3.60	3.56	3.54	3.65	3.62
Government	2.92	3.03	3.02	2.99	2.94
Industry	2.88	2.85	2.93	2.94	2.88

Table 15 summarizes the statistical results of the mean values of the enabling capacity factors for the nature of the enterprise. According to the survey, it was found that the nature of business as state-owned enterprises considered communication more important with a mean value of 3.53; the nature of business as private enterprises considered self-management more important with a mean value of 3.65; the nature of business as governmental agencies considered professional and ethical behavior more important with a mean value of 3.03; and the nature of business as trade associations considered self-management more important with a mean value of 2.90; to summarize, the Self-management is a more important skill for different business natures.

Table 16 Mean values of the enabling capacity factor for the year of establishment of the enterprise

	PE	SM	CO	Self	TI
1-5	3.44	3.39	3.40	3.40	3.42
5-10	3.56	3.53	3.52	3.63	3.56
10-15	3.07	3.13	3.11	3.12	3.07
Over 15	3.10	3.08	3.20	3.18	3.12

Table 16 summarizes the statistical results of the mean values of the enabling capacity factors for the year of establishment of the firms. According to the survey, companies with 1-5 years of establishment consider teamwork and leadership to be more important with an average value of 3.42; companies with 5-10 years of establishment consider self-management to be more important with an average value of 3.63; companies with 10-15 years of establishment consider professionalism and ethical behavior to be more important with an average value of 3.13; and companies with more than 15 years of establishment consider communication to be more important with an average value of 3.20; in summary, the requirements for enabling capabilities vary with the age of establishment. Communication is considered more important with a mean of 3.20; to summarize, the requirements for enabling capabilities vary according to the age of the company.

Table 17 Frequency, Percentage, Mean, Standard Deviation and Level of Digital Technique (DT)

Digital Technique (DT)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Can provide better information to help organizations plan and budget, facilitate day-to-day operations, and improve efficiency and customer satisfaction.	43 (10.39)	54 (13.04)	103 (24.88)	129 (31.16)	85 (20.53)	3.38 (1.239)	Moderate
With the ability to analyze data, tap the potential of data, make full use of data to predict and make decisions, and improve management decisions.	25 (6.04)	78 (18.84)	131 (31.64)	137 (33.09)	43 (10.39)	3.23 (1.061)	Moderate
Can be familiar with the use of financial software, generate financial statements more easily and quickly, generate vouchers quickly, get familiar with the needs of business processes and business decision-making, plan for business data, and improve the accuracy of data.	36 (8.7)	74 (17.87)	113 (27.29)	144 (34.78)	47 (11.35)	3.22 (1.132)	Moderate
Average of Level				180 (33.01)	58 (14.09)	3.27	Moderate

From Table 17, the mean value of digital technology (DT) is 3.15. The majority of respondents believed that, Accountants have digital technology to provide better information to help organizations in planning and budget, facilitate day-to-day operations and improve efficiency and customer satisfaction, The mean value was 3.38; Second, having the ability to analyze the data, Tap the potential of the data, Make full use of the data for prediction, decision-making, Improving management decisions, The mean value was 3.23; Be familiar with the use of financial software, More er and faster generation of financial statements, Rapid generation of credentials, Familiar with the needs of business processes and business decisions, Planning for the business data, Improve the accuracy of the data, The mean value was 3.22; And their levels are all of a medium level.

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Table 18 Frequency, Percentage, Mean, Standard Deviation and Level of Big data and Data analysis (BD)

Big data and Data analysis (BD)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
It can quickly extract effective information and manage, effectively provide decision support and risk avoidance for the organization.	25 (6.04)	71 (17.15)	146 (35.27)	126 (30.43)	46 (11.11)	3.23 (1.053)	Moderate
Have analytical thinking ability, help to obtain relevant information from financial data and be used to prepare financial reports, and be good at interpreting figures and data.	24 (5.8)	77 (18.6)	122 (29.47)	149 (35.99)	42 (10.14)	3.26 (1.057)	Moderate
Ability to convert large amounts of data into visually attractive charts and graphics to better demonstrate the implications and trends of the data.	26 (6.28)	68 (16.43)	123 (29.71)	139 (33.57)	58 (14.01)	3.33 (1.099)	Moderate
Average of Level				138 (33.33)	48 (11.75)	3.27	Moderate

According to Table 18, the mean value of big data and data analysis (BD) is 3.27. Most respondents believe that accountants can convert large data into visually attractive charts and graphics to better show the meaning and trends of data, with an average of 3.33; analytical thinking ability to obtain relevant information from financial data and prepare financial reports, and are good at interpreting figures and data, the average is 3.26; can quickly extract effective information and manage, effectively provide decision support and risk avoidance for the organization, the average is 3.23; their level is at the medium level.

Table 19 Frequency, Percentage, Mean, Standard Deviation and Level of Robotics and Artificial intelligence (RA)

Robotics and Artificial intelligence (RA)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
It can reduce data errors, achieve accurate analysis, improve accounting efficiency, provide better and more accurate data support for decision-making, provide more in-depth data analysis, and provide new insights for accounting operations.	27 (6.52)	71 (17.15)	124 (29.95)	136 (32.85)	56 (13.53)	3.38 (1.239)	Moderate
Ability to perform comprehensive analysis to improve the quality of forecast data, thereby enhancing budget and strategic management processes.	23 (5.56)	78 (18.84)	128 (30.92)	138 (33.33)	47 (11.35)	3.23 (1.061)	Moderate
Accounting data can be classified, vouchers can be automatically classified, vouchers can be prepared, and financial statements can be issued.	26 (6.28)	65 (15.7)	170 (33.33)	97 (32.61)	80 (12.08)	3.22 (1.132)	Moderate
Average of Level				123 (32.93)	61 (12.32)	3.27	Moderate

According to Table 19, the mean value of robot and Artificial intelligence (RA) is 3.27. The majority of respondents believed that, Accountants with robotics and artificial intelligence functions can reduce data errors, To achieve an accurate analysis, Improve the accounting efficiency, Provide better and more accurate data support for decision-making, Provide a more in-depth data analysis, Provide new insights into accounting operations, The mean value was 3.38; Ability to perform a full range of analysis, To improve the quality of the predicted data, Thus enhancing the budget and strategic management processes, The mean value was 3.23; Be able to classify the accounting data, The ers can be automatically classified, Voucher preparation can be performed, Financial statements can be issued, The mean value was 3.22; Their levels were at intermediate levels.

Table 20 Frequency, Percentage, Mean, Standard Deviation and Level of Network Security (NS)

Network Security (NS)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
It can repair network vulnerabilities and ensure the security of enterprise control and accounting data privacy.	25 (6.04)	63 (15.22)	132 (31.88)	146 (35.27)	48 (11.59)	3.31 (1.056)	Moderate
Strengthen the accounting internal network management supervision and standardize the operation of financial software.	31 (7.49)	58 (14.01)	141 (34.06)	136 (32.85)	48 (11.59)	3.27 (1.078)	Moderate
It has the ability to optimize the network environment of the accounting system operation and enhance the security and confidentiality of the network system.	23 (5.56)	80 (19.32)	128 (30.92)	134 (32.37)	49 (11.84)	3.26 (1.072)	Moderate
Average of Level				138 (33.49)	48 (11.67)	3.28	Moderate

According to Table 20, the mean value of network security (NS) is 3.28. Most respondents believe that the accounting personnel have network security function to optimize the network environment and enhance the security and confidentiality of the network system, the average value is 3.31; the average value of strengthening the internal network management and standardizing the operation of financial software is 3.27; the network vulnerabilities to ensure the security of enterprise control and accounting data privacy, the average value is 3.26; their level is at the medium level.

Table 21 Frequency, Percentage, Mean, Standard Deviation and Level of Tax Effects (TE)

Tax Effects (TE)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Have a certain legal literacy, can do a good job in tax declaration, tax treatment, tax planning, accurate handling of tax-related affairs.	24 (5.8)	75 (18.12)	133 (32.13)	134 (32.37)	48 (11.59)	3.26 (1.066)	Moderate
Master the relevant policies and regulations of tax planning and the actual situation of the enterprise, and formulate reasonable tax planning plans.	28 (6.76)	72 (16.39)	132 (31.88)	134 (32.37)	48 (11.59)	3.25 (1.084)	Moderate
Familiar with the procedures and regulations of each link of tax, able to accurately calculate tax obligations, formulate reasonable tax payment plans, and ensure that enterprises achieve legal and compliant tax payment.	28 (6.76)	79 (19.08)	116 (28.02)	129 (31.16)	62 (14.98)	3.29 (1.137)	Moderate
Average of Level				132 (31.96)	52 (12.72)	3.26	Moderate

From Table 21, the mean tax impact (TE) is 3.26. Most respondents believe that the accountant can have tax functions, tax declaration, tax planning and tax related affairs, the average is 3.26; master the relevant policies and regulations of tax planning and the actual situation of the enterprise, formulate a reasonable tax planning plan, the average is 3.25; familiar with the process and regulations of each link of tax affairs, can accurately calculate tax obligations, formulate reasonable tax plan, ensure that the enterprise realizes legal compliance tax payment, the average is 3.29;Their levels were at intermediate levels.

Table 22 Frequency, Percentage, Mean, Standard Deviation and Level of Laws and Regulations require (LE)

Laws and Regulations require (LE)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Can understand the legal requirements, according to the improvement of enterprise financial management and internal control requirements to formulate and implement the enterprise accounting system.	31 (7.49)	74 (17.87)	117 (28.26)	140 (33.82)	52 (12.56)	3.26 (1.12)	Moderate
The provisions of account books and statements shall ensure the accuracy and legality of accounting.	29 (7)	63 (15.22)	123 (29.71)	149 (35.99)	50 (12.08)	3.31 (1.087)	Moderate
It can maintain the authenticity and accuracy of enterprise financial information, and standardize the standard business behavior of enterprises. Familiar with national laws, regulations and national unified accounting system, always adhere to the requirements of laws, regulations and national unified accounting system for accounting, the implementation of accounting supervision.	31 (7.49)	54 (13.04)	145 (35.02)	132 (31.88)	52 (12.56)	3.29 (1.082)	Moderate
Average of Level				140 (33.89)	51 (12.4)	3.28	Moderate

According to Table 22, the average of the regulatory requirement (LE) is 3.28. Most respondents believe that the accountants required by laws and regulations can understand the legal requirements, and formulate and implement the enterprise accounting system according to the requirements of improving the financial management and internal control of the enterprise, averaging 3.26; can ensure the provisions of account books and statements, ensure the accuracy and legality of accounting, the average is 3.31; can maintain the authenticity and accuracy of the enterprise financial information, and standardize the standard operation behavior of enterprises. Familiar with national laws, regulations and national unified accounting system, always adhere to the requirements of laws, regulations and national unified accounting system for accounting, accounting supervision, the average of 3.29; their level is at the medium level.

Table 23 Frequency, Percentage, Mean, Standard Deviation and Level of Professional and Ethical behavior (PE)

Professional and Ethical behavior (PE)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Can abide by the standards, act in accordance with the law, and carry out the work in accordance with the national laws and regulations.	23 (5.56)	70 (16.91)	131 (31.64)	121 (29.23)	69 (16.67)	3.35 (1.111)	Moderate
Love the work, conduct correctly, abide by the social ethics.	23 (5.56)	67 (16.18)	125 (30.19)	130 (31.4)	69 (16.67)	3.37 (1.108)	Moderate
Familiar with accounting business, proficient in professional knowledge, master accounting technical methods.	35 (8.45)	35 (14.49)	183 (33.57)	77 (29.95)	66 (13.53)	3.26 (1.123)	Moderate
Average of Level				109 (30.19)	68 (15.62)	3.32	Moderate

According to Table 23, the mean value for professional and ethical behavior (PE) is 3.32. Most respondents believe that accounting personnel have professional and moral behavior functions and can abide by the standards and work in accordance wit h national laws and regulations, with an average of 3.35; love work, have good conduct and abide by social ethics with an average of 3.37; familiar with accounting business, proficient in professional knowledge and accounting techniques, with an average of 3 .26; Their levels were at intermediate levels.

Table 24 Frequency, Percentage, Mean, Standard Deviation and Level of Solve problems and Make decisions (SM)

Solve problems and Make decisions (SM)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Can analyze and verify the data of financial problems to avoid the recurrence of similar problems.	24 (5.8)	73 (17.63)	130 (31.4)	139 (33.57)	48 (11.59)	3.28 (1.065)	Moderate
Can select and evaluate financial plans and policies through their own professional ability and business ability.	30 (7.25)	64 (15.46)	124 (29.95)	144 (34.78)	52 (12.56)	3.30 (1.099)	Moderate
Effectively evaluate the financial situation and risks of enterprises, and put forward new financial solutions and suggestions.	28 (6.76)	60 (14.49)	126 (30.43)	144 (34.78)	56 (13.53)	3.34 (1.092)	Moderate
Average of Level				142 (34.37)	52 (12.56)	3.3	Moderate

From Table 24, the mean value for problem solving and decision making (SM) is 3.3. Most respondents believe that accounting personnel have the function of solving problems and making decisions to analyze and verify financial problems, so as to avoid similar problems. The average value is 3.28; can select and evaluate financial plans and policies through their professional and business ability, the average value is 3.3; effectively evaluate the financial situation and risks of enterprises, and propose new financial solutions and suggestions, the average value is 3.34; their level is at the medium level.

Table 25 Frequency, Percentage, Mean, Standard Deviation and Level of Communion (CO)

Communion (CO)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Ability to work with other departments, manage conflicts, and adapt to changing environments.	25 (6.04)	67 (16.18)	107 (25.85)	155 (37.44)	60 (14.49)	3.38 (1.102)	Moderate
Be able to interpret complex financial concepts in ways that are understandable to non-accountants.	16 (3.86)	76 (18.36)	140 (33.82)	121 (29.23)	61 (14.73)	3.33 (1.056)	Moderate
The ability to communicate complex accounting methods and processes to non-accountants remains a key priority for the organization.	23 (5.56)	75 (18.12)	133 (32.13)	125 (30.19)	58 (14.01)	3.29 (1.088)	Moderate
Average of Level				133 (32.28)	59 (14.41)	3.33	Moderate

According to Table 25, the mean value of the AC (CO) is 3.33. Most respondents believed that accountants had the communication function to cooperate with other departments, manage conflicts and adapt to the changing environment, with an average of 3.38;The ability to interpret complex financial concepts in a way that non-accountants can understand has an average of 3.3; the ability to communicate complex accounting methods and processes with non-accountants remains a key priority for the organization, with an average of 3.29; they are at a moderate level.

Table 26 Frequency, Percentage, Mean, Standard Deviation and Level of Self-Management (SM)

Self-Management (SM)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Be able to allocate time and resources appropriately to reduce work stress and maintain accounting professionalism.	23 (5.56)	50 (12.08)	127 (30.68)	155 (37.44)	59 (14.25)	3.39 (1.052)	Moderate
Be able to adhere to strict ethical guidelines, follow guidelines and not disclose trade secrets.	24 (5.8)	74 (17.87)	112 (27.05)	141 (34.06)	63 (15.22)	3.35 (1.114)	Moderate
Be able to process lots of data and information and effectively organize time to ensure that work is done on time.	30 (7.25)	60 (14.49)	129 (31.16)	137 (33.09)	58 (14.01)	3.32 (1.107)	Moderate
Average of Level				144 (34.86)	57 (14.49)	3.35	Moderate

According to Table 26, the mean value for self-management (SM) is 3.35. Most respondents believe that accountants with self-management functions can properly allocate time and resources to reduce work pressure and maintain accounting professionalism , with an average of 3.39; able to observe strict ethical standards, follow guidelin es, and do not disclose trade secrets, average of 3.35; able to process large amounts of data and information and effectively organize time to ensure timely completion, average of 3.32; their level is moderate.

Table 27 Frequency, Percentage, Mean, Standard Deviation and Level of Team spirit and leadership (TI)

Team spirit and leadership (TI)	Scales					M/(SD)	Level
	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)		
Be able to manage the team and trust and respect employees, build harmonious team relationships, and promote appropriate accounting knowledge sharing.	19 (4.59)	66 (15.94)	133 (32.13)	146 (35.27)	50 (12.08)	3.34 (1.031)	Moderate
Be able to connect with and cooperate with people from different professional backgrounds to build good working relationships.	27 (6.52)	67 (16.18)	131 (31.64)	138 (33.33)	51 (12.32)	3.29 (1.081)	Moderate
Can organize and implement the tasks in the accounting field, promote the development of enterprises, and make the financial work more efficient, accurate and reliable.	22 (5.31)	69 (16.67)	126 (30.43)	142 (34.3)	55 (13.29)	3.35 (1.069)	Moderate
Average of Level				142 (12.56)	52 (12.56)	3.32	Moderate

According to Table 27, the mean value for team spirit and leadership (TI) is 3.32. Most respondents believe that accounting personnel have team spirit and leadership function can manage the team, trust and respect employees, establish harmonious team relationship, and promote appropriate accounting knowledge sharing, the average is 3.34; can establish contact and cooperation with people from different professional backgrounds, establish good working relationship, the average of 3.29; can organize and implement the tasks of accounting field, promote the development of enterprises, and make the financial work more efficient, accurate and reliable, the average is 3.34; their level is at the medium level.

Analysis of Open-ended Question

This study conducted a statistical analysis on the suggestions in the questionnaire as shown in Table 28.

Table 28 Statistical results of recommendations

Classification	Frequency	Percentage
The survey results are published on the Internet for relevant enterprises and departments for reference	12	2.89
Improve data analysis ability, constantly learn to update knowledge, familiar with financial software and tools, pay attention to protect the security of financial information, but also establish good communication skills	34	8.21
Accounting personnel should strengthen practical operation and relevant laws and regulations training, improve their analytical ability and pay attention to teamwork	22	5.31
Major must learn well, learn fine, the business ability must be strong	5	1.2
Master the financial analysis ability, accounting computerization ability	5	1.2
Mastmore skills is conducive to improving the work efficiency of accounting personnel	4	0.96
Proficient in various accounting software operation skills	3	0.72
Honesty to do the account, abide by the professional ethics, improve efficiency	2	0.48
Maintain a good accounting foundation, continue to improve the accounting competence	41	9.9
Hope to strengthen the ideological and political guidance and education of accounting personnel, and establish a correct outlook on life, world outlook and values	2	0.48

Table 28 (Continued)

Classification	Frequency	Percentage
To have communication ability, have a sense of responsibility, deal with work and life things, team and knowledge awareness, consider the opinions of others	5	1.2
Stick to professional ethics	2	0.48
Strengthen the study of basic knowledge of accounting and establish a solid theoretical foundation	5	1.2
Learn to pay attention to details: accounting work requires accurate recording and analysis of data, and it is very important to pay attention to details. It is suggested to be careful and careful in the work to avoid mistakes caused by negligence;	5	1.2
Improve your professional ability and better serve the public	5	1.2
Accounting personnel should strengthen the mastery of big data, blockchain and other new digital technologies, but also adhere to the bottom line of morality and law	1	0.24
Do not do false accounts, honest and trustworthy, love and dedication	1	0.24
Financial personnel need to master the relevant information technology tools and software, including financial management software, spreadsheets and databases	1	0.24
Accounting personnel need unique thinking ability and accurate control of data	1	0.24

According to the form, 9.9% of respondents suggested that accounting personnel to maintain good accounting basis, continue to improve accounting competence, 8.21% of respondents suggested that accounting personnel improve the ability of data analysis, continuous learning update knowledge, familiar with financial software and tools, pay attention to protect the safety of financial information, but also to establish good communication ability,5.31% of the respondents suggested that accountants should strengthen practical operation and relevant laws and regulations training, improve their analytical skills and pay attention to teamwork, and the rest are made suggestions according to their own conditions.

CHAPTER V
SUMMARY AND DISCUSSION

Summary

This study explores and researches the accounting professional talents in the era of digital economy. This study chooses enterprises in Guangxi Province, China, which is located in the coastal area of China's western development and has a favorable geographical location and abundant resources, as the research object. It has fully utilized its regional advantages to ASEAN, relying on the development opportunities brought by China ASEAN Free Trade Area and Guangxi Beibu Gulf Economic Zone. According to the results of the survey, the currently investigated accounting professionals not only need to have the technical ability, but also need to have the ability to enable, the digital economy era accounting professionals are more adaptable to the needs of social and economic development.

Enterprises in Guangxi Province pay more attention to and demand comprehensive development of accounting talents, and recognize that accounting talents with technical skills can more efficiently process financial data, quickly generate reports, and data mining and analysis, provide better information to help organizations plan and budget, facilitate daily operations and improve efficiency and customer satisfaction, and make full use of the data to make predictions, decisions, and improve management decision-making. Meanwhile, it is also concerned that accountants have the enabling capabilities to select and evaluate financial solutions and policies through their professional competence and business skills, effectively assess the financial position and risks of an organization, and propose new financial solutions and recommendations to ensure the accuracy and compliance of financial reporting, familiarity with the business, proficiency in specialized knowledge, and mastery of technical accounting methods. The study shows that accounting talents with technical and enabling abilities and constantly applying these abilities to practical work are the key factors for enterprises to improve economic efficiency and rapid development.

Through investigation and research, the following conclusions are drawn:

1. In the digital economy environment, accounting professionals need to have the ability to provide enterprises with more comprehensive financial analysis and proficient business to adapt to the changing business environment and social needs.

2. By comparing with the ability of traditional accountants, accounting professionals in the digital economy are better able to adapt to the needs of social and economic development.

3. After analyzing the situation, enterprises have a clear perception of the selection of talents. It can provide a basis for enterprises to screen accounting talents,

and is also conducive to accounting professionals to understand the needs of enterprises so as to target self-improvement.

4. For practitioners of accounting and related industries or accounting students, accounting competency can provide a reference basis for personal career development and planning, and help accountants carry out self-evaluation, self-management and self-development.

Discussion

As mentioned in Chapter 2 of this paper, several researchers have referred to the competency theory, while Global Competency Skills for Integrating into the World and Global Competency. Person-Job Matching Theory and Maslow's Hierarchy of Needs Theory both provide solid theoretical support for the theoretical analysis and case study of this paper.

According to the results of the study, the results of this study are similar to the results of the study by Stancheva-Todorova (2019) in the current process of developing accounting professionals with technological competencies such as digital technology, big data and data analytics, robotics and artificial intelligence, cybersecurity, tax implications, and legal and regulatory requirements. Zhang Kai et al. (2004) & Lijie et al. (2006) mentioned in Chapter 2 theory that they both agree that accountants with technological capabilities can process financial data more efficiently, generate reports, and perform data mining and analysis to provide better information to help the organization plan and budget, facilitate daily operations, and improve efficiency and customer satisfaction, and Liu (2009) suggests that making the best use of the data for forecasting , decision making, and improving managerial decisions; the results of this research study are similar to the findings of (Gullo, 2019; Moll, & Yigitbasioglu, 2019; Kokina et al. 2019), Gullo (2019) explains that accounting enables the ability to quickly extract valid information and manage it effectively, effectively providing organizations with decision support and risk avoidance, can reduce data errors, enable accurate analysis, improve accounting efficiency, and provide better and more accurate data support for decision making, (Borgonovo, Friedrich, & Wells, 2019) provide deeper data analysis, provide new insights into accounting operations, categorize and organize accounting data, and vouchers can be automatically classified. (Carretero, Vuorikari, & Punie, 2017) suggests that accounting talents in the context of the digital economy must be familiar with national laws, regulations, and the national unified accounting system, and always adhere to the requirements of laws, regulations, and the national unified accounting system to conduct accounting accounting and implement accounting supervision. In this technical competence content scale, the average scores of Likert scale are all above 3.28, indicating that in the digital economy environment, accounting professionals need to have a more comprehensive and diversified competence, not only limited to the traditional

accounting technology, but also need to have the ability to adapt to change, innovative thinking, teamwork and other abilities, to better support the development of the business organization.

Based on the findings, the discussion in this study is also in line with (Borgonovo, Friedrich, & Wells, 2019) that accounting professionals in the digital economy need to have enabling competencies such as professional and ethical behaviors, problem solving and decision making, communication, self-management, teamwork, and leadership, and to be able to analyze financial problems, validate problematic data, and avoid similar problems from reoccurring. (Carretero, Vuorikari, & Punie, 2017; Gekara et al. 2019; Lyons et al. 2019; Law et al. 2020) Through a large number of empirical studies, it has been found that selecting and evaluating financial solutions, as well as policies through one's own professional competencies and business skills, Balcerzak And Pietrzak (2017) argued that effectively assessing the financial position and risks of the business and proposing new financial solutions and recommendations to ensure the accuracy and compliance of financial reporting, familiarity with the business, proficiency in specialized knowledge and mastery of technical accounting methods. (Dakhli & El-Zohairy, 2013) mentioned in the second chapter of the theory that accountants with enabling competencies can effectively plan and manage work time, rationally prioritize tasks and ensure that work is completed on time. Being able to adhere to a strict code of ethics, follow guidelines and not disclose trade secrets, being able to handle large amounts of data and information and organizing time efficiently to ensure that work is completed on time. In this enabling competencies content scale, the average Likert scale scores were all above 3.3, indicating that in the digital economy environment, Liu (2009), Hu (2009) & Zhang (2010) empirically analyzed the following conclusions Accounting professionals need to have the ability to provide decision makers with more comprehensive financial and business information for the continued growth and success of the organization. These competencies usually require continuous learning and practice to adapt to the changing business environment and organizational needs.

Recommendations

Based on the results of the study, the following recommendations are made for the training of accounting professionals in the digital economy:

1. Accounting talent training is to create a composite talent in the digital economy, pay more attention to the accountants in the strategic development of enterprises, departmental synergy, business development and other aspects of the functional extension of the demand should be based on the needs of the digital economy to develop a layered and typed cultivation ideas, based on the professional quality of the foundation, according to the characteristics of the industry and the

digitalization of the accounting requirements of the subdivided cultivation type, to carry out a multi-dimensional matrix layout training.

2. Colleges and universities, as an important base for delivering accounting talents to enterprises, in order to realize the development of enterprise accounting talents in the era of digital economy, we should start from colleges and universities to systematically and orderly cultivate accounting professionals adapted to the digital economy, and we need to optimize and adjust the training program of accounting majors to better meet the needs of the digital economy for accounting talents. In terms of curriculum design, each course should keep pace with the times, increase the new accounting management business model in the era of big data, and consider adding IT basic courses, big data management and application and financial technology courses in the accounting profession, and the new and old courses should be well connected to create a characteristic accounting professional curriculum system.

3. The digitalization of accounting is constantly developing, and the professional competence of accounting talents must adapt to these changing external environments in order to better serve the management of enterprises and better adapt to the needs of society.

4. The application of information technology in the era of digital economy improves the productivity of accounting personnel, combined with the reality of modern enterprise operation and management, accounting personnel can forecast planning and control of business operations occurring on a daily basis in the enterprise, improve the refinement of accounting personnel, digital management capabilities, so as to make management decisions more intelligent.

5. For the new situation of the development of digital economy, accounting teachers need to update their professional knowledge, improve their digital skills, patiently train and receive guidance, and improve their educational and teaching ability and innovation ability to adapt to the digital economy. Colleges and universities should be aware of the importance of faculty enhancement to the cultivation of new accounting talents in the digital economy, and can organize accounting teachers to carry out digital skills training and artificial intelligence refresher courses, while introducing accounting professionals with practical experience into the school to form an accounting professional education and teaching team, and promoting the formation of digital literacy of other accounting professional teachers through learning and exchange, laying the foundation for the cultivation of composite accounting talents. It is necessary to promote collaborative education between schools and enterprises, take the initiative to dock the national and local economic development needs and enterprise innovation and development needs, and carry out in-depth cooperation with leading enterprises in the industry to create a first-class integrated education platform, so as to let the social high-quality resources serve for the cultivation of accounting talents.

Limitations of the Study

Overall, the study was successfully conducted with acceptable and reasonable results. However, in order to improve future research, there are some limitations of this study as follows:

1. In the process of sample sampling, random sampling was used to conduct the study in enterprises in Guangxi Province, and finally 414 valid questionnaires were taken, and the sample is representative, but in the future, in order to obtain more in-depth research results, it is still necessary to further expand the sample capacity and improve the sample structure.

2. This study adopts the method of questionnaire survey, and in the future, it is still necessary to conduct in-depth interviews on this basis to make the study more in-depth and targeted.

Directions for Future Research

The innovation of this paper is to place the competency framework for accountants in the context of the digital economy era, drawing on the latest competency frameworks from major domestic and international organizations to keep pace with the times. Moreover, it focuses on the needs of the profession and provides specific recommendations for the main issues facing the building of talent in the accountancy profession. However, in China, as explored in this study, empirical research on accounting professional talent in the digital economy era is not comprehensive enough. There are still deficiencies and limitations that require us to conduct more in-depth research in the future:

1. The social informatization environment is constantly changing, and accounting informatization is also constantly developing. The professional competence of accounting talents must adapt to these changing external environments in order to better serve enterprise management and better adapt to social needs.

2. In the research process of this paper, the selected samples and questionnaires are mainly concentrated in the Guangxi region, and the number of questionnaires issued in other cities in China only accounts for a very small part of the overall number, and the total number of questionnaires issued is too small compared with large-scale foreign studies, which reduces the representativeness of the data. In the future research, it is hoped that a large-capacity random sample can be taken nationwide to make the study more representative, which will help the study to obtain more in-depth and richer research results.

3. In terms of research methodology, this study mainly adopts the questionnaire survey method. In the future, in-depth interviews can be added to explore in-depth the research on the competency of accounting professionals in the

era of digital economy, so as to enhance the innovation of the study and make it more meaningful.

4. If the research on competency model can be conducted separately for different levels of accountants, it will be easier to conduct empirical measurement research on the competency model of accountants, i.e., to use the competency model to evaluate and assess accountants. On this basis, further research, especially empirical research, can be conducted on the application of the competency model in human resource management, including personnel selection and recruitment, job training, career development, etc., which will enhance the practical value of accounting competency research.

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APPENDIX

Questionnaire

Questionnaire: Research on accounting professionals in the digital economy era

Dear Sir / Madam:

shalom! First, thank you very much for taking time out of your busy schedule to fill out this questionnaire!

I am a graduate student majoring in Digital Economy and Management at Maejo University. I am researching the accounting professionals in the digital economy era. The results of this survey will be used to promote the development of accounting talent training.

I solemnly promise that all the data you provide is completely confidential and will never be used for commercial purposes! This questionnaire is intended for academic research purposes only, and your personal information will not appear in the report, let alone have any impact on your work. **Those answers have no distinguish of correct or wrong, you just need to fill in according to your actual situation!**

Your active cooperation and careful filling in, will be the key to the success of this study!

Best Wish to your healthy and work!

Maejo University

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1. Gender:

☐ Male ☐ Female

2. Age:

☐ 20 – 30 years old ☐ 31 - 40 years old

☐ 41 – 50 years old ☐ over 50 years old

3. Education

☐ Bachelor Degrees ☐ Master Degrees

☐ Doctoral Degrees ☐ etc. .....

4. Position:

☐ CEO ☐ Chief Finance Officer

☐ Accounting manager ☐ Human Resource Manager

☐ etc. .....

Part 2: Company Overview

1. Industry Group:

☐ Agro & Food Industry ☐ Consumer Products
☐ Property & Construction ☐ Industrials
☐ Financials ☐ Resources
☐ Services ☐ Technology

2. Company size:

☐ 1-50 staff ☐ 50-100 staff
☐ 100-200 staff ☐ More than 200 staff

3. Enterprise nature:

☐ State enterprise ☐ Private enterprise
☐ Government organization ☐ Industry associations

4. Years of establishment of the enterprise:

☐ 1-5 years ☐ 5-10 years
☐ 10-15 years ☐ Over 15 years

Part 3:

1.About Technical competency Scale

Please rate your requirement about accountant competency, among which 1 means strongly disagree, 2 means disagree, 3 means neutral, 4 means agree, 5 means strongly agree, just tick "√" under the corresponding score.

variable name	Problem Description	1	2	3	4	5
Digital technique	Ability to provide better information to help organizations plan and budget, facilitate daily operations and improve efficiency and customer satisfaction.					
	Ability to analyze data, explore the potential of data, make full use of data for forecasting, decision-making, and improve management decision-making.					
	Able to familiarize with the use of financial software, easier and faster to generate financial statements, quickly generate vouchers, familiar with the process of business and the needs of business decision-making, planning for business data, and improve the accuracy of data.					
Big data and data analysis	Ability to quickly extract valid information and manage it effectively to effectively provide decision support and risk avoidance for the organization.					
	Possesses an analytical mindset to help obtain relevant information from financial data and use it in					

	preparing financial reports, and is good at interpreting numbers and data.					
	Ability to convert large amounts of data into visually appealing charts and graphs to better demonstrate the meaning and trends of the data.					
Robotics and artificial intelligence	Ability to reduce data errors, achieve accurate analysis, improve accounting efficiency, provide better and more accurate data to support decision-making, provide deeper data analysis, and provide new insights into accounting operations.					
	Ability to perform a full range of analyses to enhance the quality of forecasting data in order to enhance budgeting and strategic management processes.					
	Ability to categorize and organize accounting data, vouchers can be automatically categorized, voucher preparation can be performed and financial statements can be issued.					
Cyber security	Have the ability to optimize the network environment for the operation of the accounting system and enhance the security and confidentiality of the network system.					
	Strengthen the network management supervision within accounting and standardize the operation of financial software and other work.					
	Ability to repair network vulnerabilities, ensure the control of enterprise and accounting data privacy related security.					
Tax implication	With a certain degree of legal literacy, able to make tax declaration, tax processing, tax planning, and accurately handle tax-related affairs.					
	Master the relevant policies and regulations on tax planning as well as the actual situation of the enterprise, and formulate reasonable tax planning programs.					
	Familiar with the processes and regulations of various aspects of taxation, able to accurately account for tax obligations, formulate reasonable tax plans, and ensure that the enterprise realizes legal and compliant tax payment.					

Legal and regulatory requirements	Be able to understand the legal requirements to develop and implement an enterprise accounting system in accordance with the requirements to improve the financial management and internal control of the enterprise.					
	Familiar with the regulations on accounting documents, books and statements to ensure the accuracy and legality of accounting.					
	Be able to safeguard the truthfulness and accuracy of enterprise financial information and regulate the standardized business behavior of the enterprise. Familiar with national laws, regulations and the national unified accounting system, and always adhere to the requirements of the laws, regulations and the national unified accounting system to carry out accounting accounting and implement accounting supervision.					

2.About Enabling competency Scale

Please rate your requirement about accountant competency, among which 1 means strongly disagree, 2 means disagree, 3 means neutral, 4 means agree, 5 means strongly agree, just tick "√" under the corresponding score.

variable name	Problem Description	1	2	3	4	5
Professional and ethical behavior	Be able to adhere to the guidelines, act in accordance with the law, and work in accordance with national laws and regulations in accordance with the law.					
	Love and dedication to work, possess good behavior and follow social moral standards.					
	Familiar with accounting business, proficient in professional knowledge and mastering accounting technical methods.					
Problemsolving and decision-making	Ability to analyze financial problems, verify data on problems and avoid recurrence of similar problems.					
	Ability to select and evaluate financial solutions as well as policies through own professional competence and business skills.					

	Effectively assess the financial situation and risks of the business and propose new financial solutions and recommendations.					
Communication	Ability to work with other departments, manage conflict and adapt to a changing environment.					
	Ability to explain complex financial concepts in a way that non-accountants can understand.					
	Ability to communicate complex accounting methods and processes to non-accountants remains a key organizational priority.					
Self-management	Ability to allocate one's time and resources appropriately to reduce work stress and maintain professionalism in accounting.					
	Ability to adhere to a strict code of ethics, adhere to guidelines, and not disclose trade secrets.					
	Ability to handle large amounts of data and information and organize time efficiently to ensure work is completed on time.					
Teamwork and leadership	Ability to manage a team and trust and respect staff, build rapport and team relationships, and promote appropriate sharing of accounting knowledge.					
	Ability to network and work with people from different professional backgrounds to build good working relationships.					
	The ability to organize and implement tasks in the field of accounting and promote the development of enterprises to make financial work more efficient, accurate and reliable.					

Part 4: Suggestions and comments

Give any suggestions and comments for accountant competency requirement.

CURRICULUM VITAE

NAME	Mrs. Kun Liang	
DATE OF BIRTH	18 Feb 1995	
EDUCATION	2014-2018	Bachelor of Management (Auditing major), Guangxi university of Foreign Language, Guangxi, China
	2021-2023	Master of Business Administration (Digital Economics and Management Innovation),Maejo University, Chiang Mai, Thailand
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