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Identification of Future Competencies Required for Business Education Students †

Nisa Novia Avien Christy * and Nyan-Myau Lyau

Graduate School of Technological and Vocational Education, National Yunlin University of Science and Technology, Yunlin 64002, Taiwan

* Correspondence: d10843017@gemail.yuntech.edu.tw; Tel.: +886-902-355-845

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Abstract: Asia is presently undergoing the fourth industrial revolution, which emphasizes digitization and technical innovation, and is primarily regarded as a vital region for global economic growth. Consequently, new jobs need to be designed, and new abilities and skills need to be upgraded to keep pace with emerging technological advances. The fundamental challenge is building the right competencies for significant shifts in the labor market that will impact future job opportunities as well as adapting to and striving to meet the changing needs of the workplace and society. This is performed by searching for references to competencies in the literature. This study aims to identify a set of future business competencies based on the literature. This study found a total of 24 competencies and classified competencies into four categories: technical, methodological, social, and personal.

Keywords: competencies; future competencies; technical; methodological; personal; social

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1. Introduction

Asia is presently undergoing the fourth industrial revolution, which emphasizes digitization and technical innovation, and is primarily regarded as a vital region for global economic growth. The fourth industrial revolution, known as I4.0, was conceptualized at the Hanover Fair in 2011, and the German government adopted the concept as a strategic objective to transform its industrial industry in 2013 [1]. By integrating information and communication technologies such as augmented reality, machine learning, cloud computing, and robots, I4.0 provides new prospects for improving resource and process efficiencies [2].

I4.0 will generate new occupations and jobs due to its rapid impact on the workplace [3] and enable organizations to function more efficiently and achieve a competitive advantage in the market [4]. There are evidence that lower-skilled workers, without a doubt, have a substantial possibility of losing their jobs or falling into underemployment. Furthermore, robotics and automation will soon replace low-skilled and routine jobs. Consequently, new jobs need to be designed, and new abilities and skills need to be upgraded to keep pace with emerging technological advances.

University is critical in developing the competencies that will allow individuals to contribute to a more sustainable future. Therefore, graduates must acquire transdisciplinary competencies to meet industrial demands. The fundamental challenge is building the right competencies for significant shifts in the labor market that will impact future job opportunities as well as adapting to and striving to meet the changing needs of the workplace and society. Future jobs will require employees with reliable competencies and employability skills. In addition, as [5] pointed out, the greatest challenge for emerging countries is a shortage of qualified technical and skilled workers [6–8]. To address this challenge, it is required to determine the relevant future competencies and enhance the appropriate measures or learning concepts for the sustained development of curriculum content.

Competency modeling in the business field considers future job requirements to determine internal qualification needs and make employee–management decisions [9]. The business education model, which was made for a steady-state business environment, has a hard time preparing students for jobs in the future. [10,11]. The volatile, unpredictable, complex, and ambiguous (VUCA) business environment reduces our ability to predict the future. Simultaneously, the job market for business and management graduates is ever-changing.

This study focuses on the business field to identify competencies critical in a digitalized working world that will become increasingly relevant in the future. This is performed by searching for references to competencies in the literature. This study aims to identify a set of future competencies in business education based on the literature. The authors developed the following research question for this purpose: What competencies should a business graduate possess in the future?

2. Competency for Future Jobs

Competencies are broadly defined as combining and integrating knowledge, abilities, and attitudes [12]. Several studies on future competencies have been conducted by researchers and organizations such as the World Bank, McKinsey Global Institute, and the International Labour Organization. According to [13], competencies such as analytical thinking, emotional intelligence, troubleshooting, service orientation, leadership, persuasion, and negotiation are among the top emerging skills that are constantly in demand. According to We Forum [14], critical thinking and problem-solving are at the top of the list of skills that organizations expect will be in high demand in the future.

Reference [15] defined fundamental characteristics that drive competitive advantage: information management, effective communication, cooperation, creativity, problem-solving, critical thinking, adaptability, ethical awareness, self-direction, and lifelong learning. Another recent study in [16] emphasized the importance of skills in dealing with and managing change, such as problem-solving, the ability to learn, self-regulation, and skills related to digitization, which will be in high demand.

3. Methodology

This study aimed to identify a set of future competencies in business education based on the literature. A literature review was conducted through Scopus, Science Direct, Springer Link, Web of Science Database, and Google Scholar. This literature review concentrated on journals, conference papers, books, and research on English literature. A literature review was carried out between January 2016 and the middle of 2022. The authors developed a search terminology and search keyword phrases included (“competency” OR “competencies” OR “qualification” OR “skills”) AND (“future competencies” OR “future job”) AND (“Industry 4.0”) AND (“business education” OR “business field”).

Several procedures were utilized to identify a set of relevant competencies for further evaluation. The literature was systematically searched for references to present or potential future competencies in the business field. All relevant publications were classified according to the following criteria: authors’ names, publication title, publication date, primary objectives, mentioned competencies, definition and categorization of competencies, results, and conclusion. As ref. [17] proposed, a literature content analysis was conducted, which led to the encoding and categorizing of competencies into several dimensions. These activities involved tabulations, competency coding, frequency counts, and interpretation of the results. A tabulation of affinities was utilized to build the competency dimensions, which resulted in four competency dimensions: technical, methodological, personal, and social competencies. The competencies were then classified according to their distinct dimensions.

4. Results and Discussions

In this study, an extensive literature review was conducted, identifying and evaluating 39 studies (survey, case study, mixed method, Fuzzy Delphi method, Delphi method, and

experiment). This study found a total of 24 competencies based on the literature review. The study's authors classified competencies into four categories: technical, methodological, social, and personal. Technical competencies are abilities required to complete employment tasks, duties, and responsibilities, resulting in an acceptable level of work performance [18]. Methodological competencies are a broad set of skills and abilities that are necessary for a variety of tasks but are especially important for decision-making and general problem solving [19]. Social competencies refer to the reality that a person must be able to communicate, cooperate, and form social ties. Personal competencies are a person's ability to perform in a self-reflective and independent manner, as well as their capacity to learn and develop their attitude and ethical value system [20,21]. This is also described as the capacity to extend personal skills to moral activities, creating a positive self-image. Various dimensions of competency studies were performed to measure different kinds of competencies as shown in Table 1.

Table 1. A literature review of the dimensions of future competencies.

Reference	Technical	Methodological	Social	Personal
[16]	√		√	√
[22]		√	√	√
[23]	√	√	√	√
[24]		√	√	√
[5]		√	√	√
[25]		√	√	
[26]		√	√	√
[27]	√	√	√	√
[28]	√	√	√	√
[29]	√	√	√	√
[30]			√	
[31]	√		√	
[32]	√		√	
[33]	√	√	√	√
[34]	√		√	√
[35]	√	√	√	√
[36]		√	√	√
[37]	√	√	√	√
[19]	√	√	√	√
[38]			√	√

Source: Authors' own work.

Previously the author examined several dimensions of competencies. In the examined publications, four competencies were mentioned with the highest frequency and with the most robust support and may therefore be classified as very relevant future competencies. Table 2 displays these competencies, which encompass all four competency dimensions, with the highest number detected from all 20 sources. Technical competence is highlighted less frequently than the other three dimensions of future competencies. The future competencies required are presented according to the competency categories that have been introduced before. As a result, under 4 categories, 24 competencies are determined as the future competencies of the business field. The determined competencies by their categories are presented in Table 2. In the determination of the competencies, the competencies defined in the studies of [13,31,37,39] are comprehensively analyzed.

Table 2. A set of future competencies in business education by their dimensions.

Dimensions	Required Competencies	Frequency
Technical Competencies	Big data analytics	7
	Computer literacy	12
	Digital skills	14
	IT knowledge	9
Methodological Competencies	Critical thinking	13
	Analytical skills	21
	Problem solving	27
	Creative thinking	20
	Business acumen	5
	Research skills	7
	Entrepreneurial thinking	7
Social Competencies	Leadership skills	19
	Teamwork	25
	Communication skills	30
	Networking	10
	Negotiate	7
	Customer orientation	7
	Language skills	5
Personal Competencies	High integrity and ethics	5
	Adaptability and flexibility	18
	Agility	7
	Lifelong learning	18
	Self-management	8
	Curiosity	5

Source: Authors' own work.

Table 2 shows the number of articles that addressed the various dimensions and future competency in the business field. In total, the most frequently reported competencies were digital skills (N = 14) and computer literacy (N = 12) in the technical dimension. Digital skills are considered the ability to understand and use information from a variety of digital sources. Furthermore, analytical skills (N = 21), problem solving (N = 27), and creative thinking (N = 20) were the most mentioned future competencies in the business field in dimension of methodological competencies. Communication skills (N-30), teamwork (N = 25), and leadership skills (N = 19) in the dimension of social competencies were highly needed in the future. In the dimension of personal competencies, adaptability, flexibility (N = 18), and lifelong learning (N = 18) were assessed as the highest and occupy the same highest number of future competency requirements.

5. Conclusions

This study assists the reader in comprehending the necessary future business competencies. The findings of this study will enable stakeholders to take appropriate actions regarding the future effects of automation. The findings suggest prospective employers will likely highlight technical, methodological, social, and personal competencies. Students at colleges and other types of higher education institutions around the globe must possess the necessary competencies to acquire the knowledge and skills necessary to meet the challenges of changing workplaces and seize the opportunities available in the coming decade.

The required competencies for business graduates in the future job market are fully understood; however, there is no clear consensus on these competencies between industry and academia. This study can be developed if academia and industry reach a consensus to synchronize their respective requirements.

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