# The Urgency of Employability Skills for Vocational Graduates in the Job Market

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**Abstract.** Vocational graduates are considered easy to get jobs for they have the characteristics of providing skills that follow the job market. However, the emergence of new types of work and the global crisis pose a threat to the workforce of vocational graduates. Therefore, many labour providers use employability skills as an alternative to deal with this change. This paper aims to determine the urgency of job skills in the face of changes in the labour market. This paper explores the essential components of the labour market based on Indonesia's main issues. Employability skills are the right choice in dealing with changes in the labour market. Job skills assure the workforce to find, retain and develop a career in a changing job market. The implications of this research will benefit labour providers who can deal with changes in the labour market. The model for forming the right work skills for vocational graduates is an exciting study for the future.

Keywords: competence; labour; essential skills.

# **1** Introduction

Employment issues in Indonesia have always been a hot topic. The reason is that the unemployment rate has not been reduced significantly. In the last 5 years, Indonesia's open unemployment rate index has fluctuated continuously. However, at the end of 2021, it decreased with the unemployment rate every year [1].

Employment issues are closely related to the prevailing social, economic and political conditions. In the last decade, the demographic bonus, COVID-19, and the Industrial Revolution 4.0 have become significant issues in Indonesia. The demographic dividend occurring in 2020-2030 needs special attention. It is estimated that Indonesia will have as many as 60% (160-180 million) productive population by 2020 [2]. Therefore, human resource development must be well planned so that Indonesia can get a positive effect from the demographic bonus.

On the other hand, the COVID-19 pandemic has impacted increasing unemployment through company layoffs. The collapse of economic growth is the cause. The new regulations on activity restrictions and the shift of the work model to Work From Home impact the company's low

opinion [3]. Model development to be ready to face global crises such as COVID-19 must be done so that the country is more prepared.

The industrial revolution 4.0 (IR4.0) affects the labour market, especially the need for new skills. The use of software that is connected to the internet is the main feature. Some of the technologies considered part of RI4.0 are the internet of things, big data, automated machines, sensors, augmented reality, virtual reality, and cyber security [4]. The emergence of RI4.0 is expected to eliminate some jobs and give rise to new types of jobs.

The main problems with the unemployment rate in Indonesia are the mismatch of graduate skills with the labour market, the low level of public education, the wages earned by workers too small, and sources of closed job vacancies [5]. Many other countries also experience this problem. Like Indonesia, the mismatch between the skills produced and the skills needed by the labour market is a significant economic and social problem in Egypt and Jordan. It impacts the high unemployment rate, especially among higher education graduates [6].

Education is considered to be the best solution to overcome these problems. The workforce who is a vocational education graduate is thought to influence economic development [7]. Someone who receives vocational education can earn a better income than others [8]. However, based on the unemployment rate, vocational education graduates are the most significant contributor to the unemployment rate.

Someone in the future will get a job as a manual labourer, a trained technician, or a professional depending on their education or training. For this reason, employability skills are needed to minimize this gap [9]. Employability skills offer skills to be able to adapt to the needs of the job market and global issues.

This paper explores predicting employability skills as the primary key to facing the rapidly changing labour market. Theoretical studies from previous studies are the spearhead of the analysis. The study also focuses on the importance of employability skills in dealing with new technological developments, global crises, and optimizing Indonesia's potential.

## 2 Literature Review

#### **Vocational Education**

Education is important to get an excellent job through skill development. Individuals with the skills for complex assignments and who meet the company's requirements have a leading employment opportunity. As a result, individuals who are not ready will find it difficult to get a job [10]. The proper form of education for job readiness is vocational education.

Vocational education has the characteristics of providing specific skills to someone who is following a particular field of work. Vocational education prioritizes practical learning to make it easier for graduates to get jobs [11]–[13]. Vocational education is right on target because the competencies offered are following the type of work in the job market [14].

#### **Employment Issues**

#### Demography bonus

Indonesia is projected to receive a demographic bonus, namely a bonus where the age of the majority of Indonesian people is in a productive state. Indonesia will contribute to population growth in the eighth rank [15]. Indonesia's challenge in dealing with the demographic bonus is how to prepare the community to be optimal in the development of Indonesia. Efforts that can be made are to reduce unemployment, provide social infrastructure, run internal migration programs, and educate human resources [16].

## COVID-19

COVID-19 has impacted the unemployment rate and the recovery of the labour market sector, particularly in manual domestic work and other occupations [17]. Various study topics due to the impact of COVID-19 can be seen in **Figure 1.** [18]. Based on Figure 1, the COVID-19 study has a broad coverage of the economy, education, industry, and health.



Fig 1. Issues related to COVID-19 [18]

#### Industrial Revolution 4.0

Technological developments play an important role in changing skills needs in the job market. The emergence of the need for new skills also goes hand in hand with the expiration of past skills. It has led to a great demand for new skills in the job market. Workforce users are responding to this problem by seeking experienced workers who are accustomed to change. Of course, the victims are young people because of their lack of experience [19].

Industrial revolution 4.0 provides rapid changes in all sectors. The application of Artificial Intelligence (AI) and Big Data in learning is one example of the implications of IR 4.0 in the education sector. The application of these technologies aims to prepare graduates to compete in the future job market through an early introduction to learning [20].

## **Employability Skills**

Employability skills are defined as a collection of one's achievements to obtain and succeed in a job with long-term skills [21]. Another definition defines employability skills as skills that enable a person to find, obtain, and retain employment effectively [9]. Employability skills are classified into three parts, namely basic skills, critical thinking skills and intrapersonal skills [22].

Employability skills are also considered a combination of hard skills and soft skills. Hard skills are defined as skills to do exceptional work. Hard skills can be learned from theoretical and practical learning, for example, programming skills, building construction, and statistical skills. Hard skills are highly dependent on work experience/practice. Hard skills are elementary to measure and analyze. While soft skills are defined as interpersonal skills such as self-management, communication, ethics, problem-solving, initiative, flexibility, learning, leadership, and interaction with others. Soft skills are a special consideration in work [9], [23].

In addition, the most sought-after employability skills are analytical skills, evaluation, problemsolving, critical thinking, communication, and cooperation [24], [25]. For example, the manufacturing industry is experiencing a rapid shift towards a workforce with specific skills, such as skills to adapt to the environment, critical thinking skills, problem-solving skills, communication skills, supervisory and managerial skills, and good service skills. These skills are an enduring requirement in the labour market. In addition, basic work skills and technical skills are also essential points [26], [27].

Skills in using technology are the spearhead in facing the era of globalization, especially IR4.0. Technological skills are often categorized into technical skills, which include technology skills, programming skills, and digital skills. Skills in designing, simulating, IoT working, robotics, and 3D printing are coding, software programming, computing, data analysis, cyber security, clouding, artificial intelligence, digital content creation, and others are sub-components of technical skills. IR4.0 [28].

# **3 Methods**

This research method uses a literature review with the steps (1) Planning the review; (2) Conducting the review; and (3) Report the review.

#### Planning the review

Planning a review is carried out to examine research results on the importance of employability skills in the labour market. The aim is to answer how urgent is employability skills. What are

the components of employability skills? And what is the global trend toward employability skills?

#### Conducting the review

Articles for review are obtained from trusted journals, with 98% category being global indexed journals. A total of approximately 100 articles related to labour market issues were reviewed to answer research questions. The results obtained are about 45 articles that are relevant to the study.

## Report the review

Furthermore, the results of the study are synthesized to be interpreted in answering research questions. The report is carried out explicitly with the main essential points related to the urgency of employability skills.

# **4 Results and Discussion**

## Results

The findings of our study show that employability skills have an essential role in one's job. Employability skills include skills to obtain and develop a career in the world of work. Several intrapersonal skills such as communication, self-management, willingness to continue learning, teamwork, critical thinking, problem-solving, and adaptation are essential to face changing labour market needs. Through these skills, a person will be able to adapt and develop themselves according to the trends of the world of work and industry. We found that employers and academics at universities require prospective workers to have employability skills incorporated into the hidden curriculum.

Employers prefer experienced individuals. It has an impact on the difficulty of young people to find work due to lack of experience. As in **Figure 2.** where there is a significant difference between workers who only rely on education and those who have experience [19].



Fig. 2. Comparison of Skills Levels from Education and Experience [19]

Several attempts were made to overcome this with dual system education models, integrated learning with industry, and internships or fieldwork practices. However, on a small scale, we found a mismatch between the competencies needed and those possessed. Therefore, employability skills are critical for young people to be able to compete.

Technological skills have changed since the introduction of IR4, known as technical skills. This skill requires that one is not only limited to operating standard applications, but one must have broader skills such as artificial intelligence, computing skills, data analysis, IoT, and others.

#### Discussion

Technological developments, trends, and global crises significantly affect the need for workers with up to date skills. Efforts to overcome this is the application of vocational education compared to academic education. Through on-the-job training and lifelong learning, one can get and keep a job [8]. Vocational education has always been the key to facing these challenges. However, vocational education has some flaws. In Thailand, vocational education does not work effectively because it does not have adequate competency outcomes in the world of work. Many graduates with vocational education graduates is the lack of ability to adapt to the rapid growth of technology that requires new skills [30]. Another problem is the mismatch between the skills possessed by graduates and the skills needed by the labour market which is the main subject of unemployment rates [31].

The work component of a person contains two elements, namely supply and demand. Supply refers to the education and experience of the individual, while demand is the minimum skill requirement of the individual. Knowledge has an important role in the world of work.

Experience is more valued than education. Young people tend to have less experience than middle age, which makes young people less competitive. Over the past decade, youth employment opportunities have deteriorated in OECD countries [19]. The risk of the unemployment rate is dominated by youth compared to adults, with worse long-term consequences [32].

Industrial training can be a supporting model to gain experience in the world of work as preemployment advocacy [33]. The training environment is essential in transferring vocational skills [34]. The problem of young workers' lack of experience can be overcome using the Workintegrated learning (WIL) Education model developed in Hong Kong. WIL refers to learning that is an internship, practicum, fieldwork practice, and thematic practice. Based on this, WIL is considered to be able to equip graduates with the skills appropriate to the workplace [35]. Austria, Denmark, Germany and Switzerland are also implementing dual training to reduce the unemployment rate. Job market involvement is the key to success. Dual training refers to a combination of learning in school and the world of work. Dual training provides graduates with theoretical abilities and work experience. In fact, at the time of internship, graduates can earn a salary, and it is also easier to join the related industry [36]. However, new challenges arise for vocational graduates in the job market.

The presence of IR4.0 brings many changes to the job market. Changes that occur are considered disturbing because they change the nature of work. Many jobs rely heavily on the internet and smart technology, as with newspaper companies and the taxi industry. Another change is robot technology and artificial intelligence, which are projected to reduce the number of existing workforces. Layoffs on a large scale are a major consequence of these advances [37]. For example, jobs that require specialized skills, such as analytical jobs, have been replaced by computing technology. Only menial jobs that cannot be replaced by computing technology such as cleaning services and drivers that do not require special skills [38]. Therefore, the development of technological skills in operating machines and software through training is a must for a person to be successful in the digital age job market [39], [40].

In addition, flexibility and adaptability are skills that are required for graduates to be able to work in various work environments effectively. Lifelong learning skills are an additional key to success in the world of work by being able to upgrade new skills. In addition, English also has an essential role in being able to communicate effectively [41]. With rapid technological changes in replacing the role of humans in the world of work, small businesses that utilize digital technology become new opportunities, especially for female workers [42].

The main dimensions of the world of work are divided into 5 components, namely career development, experience, learning outcomes (knowledge and skills), emotional intelligence, and soft skills [23]. Employability skills occupy an essential role in this dimension. Employers are very concerned about a workforce with good critical thinking, communication, and teamwork skills [43]. The use makes efforts of graduates in responding to this area by providing input to labour providers (academic institutions) to place the development of employability skills in the educational curriculum [24]. This is because the formation of employability skills can be done through classroom learning and direct experience in the world of work [35].

Responding to new demands in the job market, some countries are focusing on specific models and skills to deal with these changes. Universities in England develop academic skills and strengthen students' employability skills, including communication, information technology, mathematics, and lifelong learning [44]. The Universities of Northumbria and Newcastle focus on developing skills that are transferable and can be used in classroom learning as well as in the workplace. Self-management, collaboration, communication, information technology, and the use of software applications as some of the focuses of skills development [45]. In Taiwan, job market providers demand equipping graduates with job skills so that graduates have core competencies according to the needs of the labour market. For example, Chinese students earn better salaries with good English skills compared to students who do not have English skills [20].

## Limitation

This paper explores the role of employability skills in the job market by considering the changing needs for new skills. Of course, the need for new skills varies from country to country based on the readiness of existing technologies. The employability study here uses a global perspective by assuming the conditions of all countries are the same.

# **5** Conclusion

This paper highlights employability skills in the job market. Literature review from various related scientific articles becomes material for exploration. The aim is to examine how essential employability skills are for individuals in the world of work. The point of view of academics and graduate users is the benchmark for interpretation.

Employability skills contain the main skills, which are often referred to as basic skills, general skills, and key skills that must be possessed by prospective workers. Employability skills have an essential role in job acquisition and career development because they have characteristics that can adapt to the needs of the labour market. Employability skills can be formed through learning and work experience.

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