The Influence of 21st Century Skills On Readiness Career Of Accounting 4.0

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Abstract
The Industrial Revolution 4.0 is marked by technological advances in various fields, such as artificial intelligence, supercomputers, smart robots, cloud computing, big data systems, and genetic engineering that allows humans to further optimize brain function. Industrial revolution 4.0 is predicted to have a significant and extraordinary impact on various aspects, especially on products, supply chains, consumers, and workers. Accountants are one of the workers or professions that are disrupted. In preparing for their careers, accountants should prepare themselves by honing soft skills and be able to adapt to changes that occur, so that the 4.0 revolution is not a challenge but an opportunity in the future. Soft skills that will be discussed in this study refer to 21st-century skills. 21st-century skills are divided into learning skills, literacy skills, and life skills. This study uses a closed survey instrument, this study collects data from four universities in Malang City. The research hypothesis was tested using Structural Equation Modeling (SEM) with Smart Partial Least Square (Smart-PLS). The data analysis used in this research is the outer model (measurement model) and the inner model (structural model). The results showed that learning skills, literacy skills, and life skills affected students’ readiness for careers to become accountants 4.0. Gender and education programs also show an influence on students' readiness for careers to become accountants 4.0

Keywords: 21st-century skills, accountants 4.0, career readiness

INTRODUCTION

The Industrial Revolution 4.0 is marked by technological advances in various fields, such as artificial intelligence, supercomputers, smart robots, cloud computing, big data systems, and genetic engineering that allows humans to further optimize brain function. There is a possibility that the fourth industrial revolution will create new jobs and unemployment, with the Industrial Revolution 4.0 making its challenges for workers. Industrial revolution 4.0 is predicted to have a significant and extraordinary impact on various aspects, especially on products, supply chains, consumers, and workers (Candra & Wahyono, 2018). Accountants are one of the workers or professions that have been disrupted by the fourth industrial revolution. Accountants must adapt by increasing their capabilities to face industrial revolution 4.0. To survive and exist, the accounting profession requires accountants to take action to survive in their fields (Halmi, 2018).

A qualified workforce has knowledge and skills in line with technological developments and various market changes (Sidi, 2001). The job market requires graduates who are competent and skilled in their respective fields (Ishak et al., 2008; Ismail, 2012). Mason et al. (2006) describe job readiness as the possession of skills, skills, knowledge, attitudes, and commercial understanding that will enable graduates to make a productive contribution to achieving organizational goals. In preparing for their careers, accountants should prepare themselves by honing soft skills and be able to adapt to changes that occur, so that the 4.0 revolution is not a challenge but an opportunity in the future. Previous research has observed that graduates who are job-ready and possess the required competencies are better prepared for the transition from post-graduation to employment and long-term career success (Cavanagh et al., 2015; Clark, 2013; Finn, 2017; Jackson, 2016; Velasco, 2014).
Social Cognitive Career Theory (SCCT) developed by Lent et al (1994) recognizes three categories of factors that influence career decision-making, namely self-efficacy, outcome expectations, and choice of goals. Several previous studies have shown that self-efficacy is positively related to students’ decisions to pursue an accounting career (Hayes & Credle, 2008; James & Hill, 2009; Ahmad et al, 2015). Career self-efficacy is a factor that affects career readiness, including in the preparation of career planning related to values, talents, and abilities (Mahmud, et al., 2020). Individual abilities are divided into hard skills and soft skills (Ubaedy, 2008:68). Hard skills are formal/academic and technical knowledge acquired (Andrews and Higson, 2008; Chell and Athayde, 2011; Silva, 2009). While soft skills are individual intrapersonal and interpersonal skills (Laker and Powell, 2011) which means soft skills are a person's ability (beyond technical and academic abilities).

Soft skills and hard skills are equally important and essential for graduates to be able to compete and achieve a successful career in the labor market (Rotherham and Winllingham, 2009; Silva, 2009). Soft skills are considered an important complement to hard skills by facilitating the creative and productive application of hard skills in the workplace (Jackson and Chapman, 2012). However, Idrus et al. (2009) found that soft skills are more than just a complement to hard skills. Soft skills that will be discussed in this study refer to 21st-century skills. 21st-century skills are divided into learning skills, literacy skills, and life skills (Trilling and Fadel, 2009). Learning skills consist of solving critical thinking, creativity, collaboration, and communication (Trilling and Fadel, 2009). Literacy skills consist of information literacy, media literacy, and information and communication technology (ICT) literacy (Trilling and Fadel, 2009). Life skills consist of flexibility, leadership, initiative, and social skills (Trilling and Fadel, 2009).

\[ H_1 = \text{learning skills have a positive influence on students' readiness for careers to become accountants 4.0} \]
\[ H_2 = \text{literacy skills have a positive influence on students' readiness to become accountants 4.0} \]
\[ H_3 = \text{life skills have a positive influence on students' readiness for careers to become accountants 4.0} \]
\[ H_4 = \text{self-efficacy has a positive influence on students' readiness to become accountants 4.0} \]
\[ H_5 = \text{learning skills have a positive influence on students' readiness for careers to become accountants 4.0 through self-efficacy variables} \]
\[ H_6 = \text{literacy skills have a positive influence on career students to become accountants 4.0 through self-efficacy variables} \]
\[ H_7 = \text{life skills have a positive influence on career students to become accountants 4.0 through self-efficacy variables} \]
\[ H_8 = \text{gender has a positive influence on students' readiness for careers to become accountants 4.0} \]
\[ H_9 = \text{educational programs have a positive influence on students' readiness for careers to become accountants 4.0} \]

The first novelty of this research is the research variable, namely career readiness to become an accountant 4.0. Second, the soft skills variable refers to 21st-century skills. Furthermore, this study uses self-efficacy as a mediating variable. The newness of the next research is the subject of research, namely undergraduate and diploma IV program students because it uses educational program variables.
RESEARCH METHODS

This study collects data from four universities in Malang City. The research hypothesis was tested using Structural Equation Modeling (SEM) with Smart Partial Least Square (Smart-PLS). The data analysis used in this research is the outer model (measurement model) and the inner model (structural model). All variables were measured using a closed questionnaire with an interval measurement scale in the form of a Likert scale.

Learning skills consist of solving critical thinking, creativity, collaboration, and communication (Trilling and Fadel, 2009). The instrument used to measure critical thinking consists of five question items adapted from (Fajrarianthi et al., 2016), creativity consists of four question items adapted from Brookhart (2013), collaboration consists of six question items adapted from (ReadWriteThink, 2005), and communication consists of four question items adapted from Prikshat et al., (2019).

Literacy skills consist of information literacy, media literacy, and information and communication technology (ICT) literacy (Trilling and Fadel, 2009). The instrument used to measure information literacy consists of four question items adapted from Moeller et al., (2011), media literacy consists of five question items adapted from Celot (2009), and technological literacy consists of three question items adapted from Prikshat et al., (2019).

Life skills consist of flexibility, leadership, initiative, and social skills (Trilling and Fadel, 2009). The instrument used to measure flexibility consisted of twelve question items adapted from Martin & Rubin, (1995), leadership consisting of four question items adapted from Prikshat et al., (2019), and initiative consisting of six question items adapted from Frese and Fay (2001), social skills consist of five question items adapted from Yun and Lee (2017). The mediating variable, namely self-efficacy, is measured by six question items adapted from Yuliana (2019). While career readiness to become an accountant 4.0 as an endogenous variable is measured by seventeen question items adapted from Ahmad et al., (2019) and Rintakawati (2015). Control variables consist of gender and education program.

RESULTS AND DISCUSSION

Evaluation Outer Model

Evaluation of the measurement model (outer model) was carried out as a test of construct validity. Evaluation of the outer model is seen from the validity and reliability. Convergent validity is seen from the loading factor value. In addition to being indicated by the loading factor value, the convergent validity test is also indicated by the value of the Average Variance Extracted (AVE). The loading factor value of each variable indicator shows a value higher than 0.6. Thus the indicators that measure the dimensions or variables are declared valid.

<table>
<thead>
<tr>
<th>Variable</th>
<th>AVE</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning skills</td>
<td>0.514</td>
<td>Valid</td>
</tr>
<tr>
<td>Literacy skills</td>
<td>0.561</td>
<td>Valid</td>
</tr>
<tr>
<td>Life skills</td>
<td>0.557</td>
<td>Valid</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>0.687</td>
<td>Valid</td>
</tr>
<tr>
<td>Career readiness to become an accountant 4.0</td>
<td>0.583</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Based on table 1 above, it can be seen that the variables of learning skills, literacy skills, life skills, self-efficacy, and career readiness resulted in an Average Variance Extracted (AVE) value greater than 0.5. These results indicate that each indicator has a good level of convergent validity. Thus, the indicators that measure the dimensions or variables are declared valid.
Table 2 Reliability Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimension</th>
<th>Composite Reliability</th>
<th>Cronbach’s Alpha</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Skills</td>
<td>Critical thinking</td>
<td>0.922</td>
<td>0.907</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Creativity</td>
<td>0.835</td>
<td>0.835</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Collaboration</td>
<td>0.881</td>
<td>0.841</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>0.856</td>
<td>0.777</td>
<td>Reliable</td>
</tr>
<tr>
<td>Literacy Skills</td>
<td>Information Literacy</td>
<td>0.919</td>
<td>0.902</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Media Literacy</td>
<td>0.897</td>
<td>0.855</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Technology Literacy</td>
<td>0.857</td>
<td>0.751</td>
<td>Reliable</td>
</tr>
<tr>
<td>Life Skills</td>
<td>Flexibility</td>
<td>0.854</td>
<td>0.818</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Leadership</td>
<td>0.841</td>
<td>0.841</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Initiative</td>
<td>0.894</td>
<td>0.857</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Social skills</td>
<td>0.883</td>
<td>0.840</td>
<td>Reliable</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td></td>
<td>0.939</td>
<td>0.924</td>
<td>Reliable</td>
</tr>
<tr>
<td>Career readiness</td>
<td></td>
<td>0.960</td>
<td>0.955</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Based on table 2 above, it can be seen that each variable shows a composite reliability value greater than 0.70, and Cronbach’s alpha is greater than 0.60 so the measure of the construct is reliable.

Evaluation of the Inner Model

Table 3 R-Square

<table>
<thead>
<tr>
<th>Exogenous Variable</th>
<th>Endogenous Variables</th>
<th>R-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning skills, literacy skills, dan life skills</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.732</td>
</tr>
<tr>
<td>Gender</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.735</td>
</tr>
<tr>
<td>Education programs</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.733</td>
</tr>
</tbody>
</table>

Based on table 3 above, the R-Square values for career readiness variables are 0.732, 0.735, and 0.733. These results can be concluded that the large influence of the variable learning skills, literacy skills, and life skills on career readiness to become an accountant 4.0 is 73.2%, including in the strong category. The influence of gender on career readiness is 73.5%, included in the strong category. Meanwhile, the influence of educational programs on career readiness to become an accountant 4.0 is 73.3%, including in the strong category.

Direct influence hypothesis testing is used to test whether there is an influence of exogenous variables on endogenous variables. The results of testing the direct influence hypothesis can be seen in table 4.7 as follows:

Table 4 Direct Influences

<table>
<thead>
<tr>
<th>Exogenous</th>
<th>Endogenous</th>
<th>Path Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning skills</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.092</td>
<td>0.000</td>
</tr>
<tr>
<td>Literacy skills</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.395</td>
<td>0.000</td>
</tr>
<tr>
<td>Life skills</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.119</td>
<td>0.019</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.347</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The indirect influence hypothesis test is intended to test whether there is an indirect influence of exogenous variables on endogenous variables through intervening variables (mediation). The results of the analysis are presented in table 5 as follows:

Table 5 Indirect Influence

<table>
<thead>
<tr>
<th>Exogenous</th>
<th>Intervening</th>
<th>Endogenous</th>
<th>Indirect Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning skills</td>
<td>Self-efficacy</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.052</td>
<td>0.000</td>
</tr>
<tr>
<td>Literacy skills</td>
<td>Self-efficacy</td>
<td>Career readiness to become an accountant 4.0</td>
<td>0.113</td>
<td>0.002</td>
</tr>
</tbody>
</table>
Discussion

This study examines the factors that can affect students' readiness to become accountants 4.0 with Social Cognitive Career Theory (SCCT). This study succeeded in proving that self-efficacy has a positive influence on students' readiness for careers to become accountants 4.0. Self-efficacy also has a mediating influence between skills and students' readiness to become accountants 4.0, because self-efficacy refers to the individual's ability to consider, organize and complete the desired actions to achieve goals according to their skills (Zalizan et al. 2013). The relationship between self-efficacy and 21st-century skills is quite strong (Agusriati et al, 2021). 21st-century skills consist of learning skills, literacy skills, and life skills (Trilling and Fadel, 2009).

The Influence of Learning Skills and Self-Efficacy on Student Readiness to Become an Accountant 4.0

Table 4 shows that the path coefficients from learning skills to career readiness to become accountants 4.0 are 0.092; P-Value value of 0.000. These results indicate that learning skills have a direct influence on career readiness to become an accountant 4.0. These results can be interpreted as hypothesis 1 is accepted. Table 5 shows that the Indirect Coefficient value is 0.052 and the P-Value is 0.000. These results indicate that learning skills have an indirect influence on career readiness to become an accountant 4.0 through self-efficacy. These results can be interpreted as hypothesis 5 is accepted.

Learning skills consist of critical thinking skills, creativity, collaboration, and communication (Trilling and Fadel, 2009). The results of this study are in line with Aprianti &
Sugandi (2015) who in their research found a positive relationship between creativity, communication skills, and the ability to cooperate with work readiness. To be able to deal with all the changes that will arise, several abilities are very important to have, such as problem-solving, critical thinking, analytical thinking, creativity, to the ability to work together (Fauzan, 2020). By thinking critically one can use relevant information or communication in problem-solving (Gut, 2011). Previous research has shown that complex problems require creative solutions (Kaufman, 2013). As employee creativity is presented as a necessity for long-term success (DiLiello & Houghton, 2008), creativity is emerging as an essential skill for leading or adapting to change. The complexity of the task requires employees to collaborate because individuals cannot have all the knowledge and skills (Wang, 2010). Work carried out collaboratively by teams with different skills and roles will complement each other (Dede, 2010; Fraser & Hvolby, 2010). Communication skills are critical in the growing service sector and involve the ability to transmit information, ensuring that meaning is expressed influenceively taking into account the audience and the media (Ananiadou & Claro, 2009; Katz, 2007).

The Influence of Literacy Skills and Self-Efficacy on Students' Readiness to Become an Accountant 4.0

Table 4 shows that the path coefficients from literacy skills to career readiness to become accountants 4.0 are 0.395; the P-Value value is 0.000. These results indicate that literacy skills have a direct influence on career readiness to become an accountant 4.0. These results can be interpreted as hypothesis 2 is accepted. Table 5 shows that the Indirect Coefficient value is 0.113 and the P-Value is 0.001. These results indicate that literacy skills have an indirect influence on career readiness to become an accountant 4.0 through self-efficacy. These results can be interpreted as hypothesis 6 is accepted.

Literacy skills consist of information literacy, media literacy, and ICT literacy (Trilling and Fadel, 2009). Research by Wijaya et al (2016) found that the skills needed in the 21st century by the business world and the industrial world are technology and information media skills. Another study by Yahya (2018) states that industry 4.0 requires workers who have skills, one of which is technological literacy. To increase productivity, new technologies are developed, and as a consequence, technology is increasingly replacing manual labor and being integrated into most aspects of work (Fuchs, 2010). This can be explained by the need to be able to master technology not only theoretically but practically. To maintain a competitive advantage, employees must be fluent in the skills and language of ever-changing technology (Lemke, 2002).

The Influence of Life Skills and Self-Efficacy on Students' Readiness to Become an Accountant 4.0

Table 4 shows that the path coefficients from life skills to career readiness to become accountants 4.0 are 0.119; the P-Value value is 0.019. These results indicate that life skills have a direct influence on career readiness to become an accountant 4.0. These results can be interpreted as hypothesis 3 is accepted. Table 5 shows that the Indirect Coefficient value is 0.124 and the P-Value is 0.008. These results indicate that life skills have an indirect influence on career readiness to become an accountant 4.0 through self-efficacy. These results can be interpreted as hypothesis 7 is accepted.

Life skills consist of flexibility, leadership, initiative, and social skills (Trilling and Fadel, 2009). Soft skills and life skills are the keys to education and employment (Lombardi et al., 2011; Nair & Fahimirad, 2019). The results of the study are supported by previous research conducted by Wijaya et al (2016) which found that the skills needed in the 21st century by the business world and the industrial world, one of which is life skills. Someone with high initiative and social skills will give a spontaneous response without waiting for instructions.
The initiative has a significant influence on performance. the higher the initiative it will affect the performance of human resources (Licuanan, 2013; Frese and Fay, 2001). Flexibility is needed to trigger innovation, change, and robustness of thinking in individual decision-making (Sharma et al., 2010). Leadership competencies can be used to help improve student career readiness (Seemiller, 2018; Sobri, et al., 2019; Sultoni, et al., 2018). There is a positive relationship between social skills and job readiness (Wardani, 2011).

**The Influence of Self-Efficacy on Career Readiness to Become an Accountant 4.0**

Table 4 shows that the path coefficients from self-efficacy to career readiness to become accountants 4.0 are 0.347; the P-Value value is 0.000. These results indicate that self-efficacy affects career readiness to become an accountant 4.0. These results can be interpreted as hypothesis 4 is accepted. The results showed that self-efficacy had a positive influence on student readiness for a career to become an accountant 4.0. The results of the study are supported by previous research which found that self-efficacy has a positive influence on job readiness (Ngaini, 2017; Fitriyana, et al, 2021). There is a positive and significant influence of self-efficacy on job readiness (Kusmuriyanto, 2019). Baiti et al’s research (2017) found that there is a positive relationship between career self-efficacy and job readiness in final semester students.

**The Influence of Gender on Students’ Readiness to Become an Accountant 4.0**

Table 3 shows that the R-square value is 0.735. These results indicate that gender affects career readiness to become an accountant 4.0. These results can be interpreted as hypothesis 8 is accepted. The results show that the R-square value is 0.735. These results can be interpreted that gender affects the readiness of students to become accountants 4.0 by 73.5%. While 26.5% is influenced by other factors.

Gender is an important predictor and previous research has shown that women are more open to information concerning their career knowledge (Patton & Creed, 2001). Most studies also found that women scored higher on career maturity than men (Luzzo, 1995; Rojewski, et al., 1995). Ariyanti (2007) found that there are differences in career maturity based on gender where girls are more mature than male students. Meanwhile, Wibowo (2010) found something different there was no difference in career maturity between male and female students. Other studies also did not find differences in career maturity between women and men (Watson, et al., 1995)

**The Influence of Education Programs on Student Readiness to Become Accountants 4.0**

Table 3 shows that the R-square value is 0.735. These results indicate that gender affects career readiness to become an accountant 4.0. These results can be interpreted as hypothesis 8 being accepted. These results can be interpreted that education programs affect student readiness for careers to become accountants 4.0 by 73.3%. While 26.7% is influenced by other factors. Teng et al., (2019) in their research showed that the university curriculum develops students' soft skills and supports the relationship between soft skills and students' readiness for work. Academic education produces graduates with analytical skills for the development of knowledge, while vocational education produces ready-to-use personnel with adequate skills to carry out tasks in their fields (Nurniah et al, 2015). College accounting programs spend too much time keeping up with the demands of the accounting profession and prioritize vocational training over providing a more meaningful educational experience (Gray and Collison, 2002).

**CONCLUSION**

Learning skills, literacy skills, and life skills have a direct influence on students' readiness for careers to become accountants 4.0. Learning skills, literacy skills, and life skills
have an indirect influence on students' readiness for careers to become accountants 4.0 through self-efficacy variables. Gender and educational programs affect students' readiness for careers to become accountants 4.0. Suggestions to further researchers are research by including samples from other universities in other regions in Indonesia, especially in other countries, and adding internal factors other than gender and external factors other than education programs so that the resulting variables can be more diverse.

**REFERENCES**


