STUDENTS IDEAL CAREER IN THE 4.0 INDUSTRIAL

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ABSTRACT
This study aims to analyze quantitatively the factors that affect the career planning of students in the Industrial 4.0 era. A sample of 381 students was taken using a proportional random sampling technique. The data were analyzed using the SEM technique with the help of the SEM AMOS 24.0 program. The results show that career center management, entrepreneurship personality, family environment, entrepreneurship education, and entrepreneurship intention contributed both directly and indirectly to student career planning in the Industry 4.0 era, both partially and simultaneously. The results also indicate that entrepreneurship personality is the variable that has the most significant contribution to encouraging students’ intention to have a career as an entrepreneur. The research contribution shows that providing appropriate entrepreneurship education, supporting the performance of career center management, strengthening the entrepreneurship personality, and strengthening the role of the family environment, increases student intention in planning careers as entrepreneurs in the 4.0 industrial era.

Keywords: COVID-19, intellectual capital, human capital, profitability, SME, CEE

INTRODUCTION
Studies related to intentions and careers have been widely studied by scholars in various parts of the world, both advanced and developing (Mukhtar et al., 2021; Vega-gómez et al., 2020). Research by Gorgievski et al. (2018) found that entrepreneurial career intentions are influenced by attitudes of openness to change and self-improvement, which are mediated by positive attitudes toward entrepreneurship and self-efficacy. In comparison, research by Suratno et al. (2021) showed that entrepreneurship intention is influenced by the family environment. Researchers in Indonesia is also interested in studying this theme, especially since the unemployment rate in Indonesia is still high (Muchtar et al., 2018; Mukhtar et al., 2021).
Based on the latest data from the Central Statistics Agency of the Republic of Indonesia, as of February 2022, Indonesia's unemployment rate was recorded at 5.83% of the total working age population, and ironically nearly 14% were graduates of the diploma and undergraduate education levels.

The 4.0 industrial revolution has been marked by very rapid technological developments and change, which then has led to a disruptive economy (Roblek et al., 2016). In this era, the agility of individuals in dealing with change is the key to success. Students must be able to take advantage of technological developments and must be keen to see and capture entrepreneurial career opportunities that arise with the development of information technology in the 4.0 industrial revolution era (Al Mamun et al., 2017; Mahmood et al., 2019). Business opportunities in the 4.0 industrial revolution are very wide open and include businesses in the field of finance technology (fintech), software development as a service (SaaS), cloud hosting, online trading, and on-demand services (Al Mamun et al., 2017; Chen, 2013).

According to Strachan (2018), entrepreneurship education has an important role in dealing with youth unemployment. Entrepreneurship education is an essential component that can give a person impetus in making career choices, thereby stimulating economic growth through the creation of new ventures (Wu et al., 2022). One factor that has been recognized as very important for developing behavior and entrepreneurial intentions is entrepreneurship education (Ahmed et al., 2020; Liu et al., 2019). The entrepreneurship personality can foster intention in entrepreneurship, which will influence individual decisions to determine a career in the Industry 4.0 era (Gorgievski et al., 2018; Yildiz, 2018). The support and role of the family, especially parents, of course, is needed by students to become an entrepreneur. (Farrukh et al., 2017; Sharma, 2014).

Although there have been many studies that have examined careers, there are still few that have examined the variables of student career center management on student careers. For example, research by Suratno et al. (2021) examined the variable of economic literacy as a mediating variable of the influence of family economic education and peer groups on students' entrepreneurial intentions but did not examine other variables. This study tries to complete the gap in previous research, namely by examining the influence of student career center management (CC), entrepreneurship personality (EP), family environment (FE) and entrepreneurial education (EE) on student careers (FC) by including entrepreneurship intention (EI) as a mediating variable. This research provides insight into at least three things, first, from the theoretical aspect of complementing the studies that have been carried out by including the variable of student career center management as a predictor of student careers (which has not been studied by a number of previous researchers). Second, it provides practical insight to related parties and how to improve student careers through predictor variables. And third, it is the first step related to similar themes in different contexts.

**LITERATURE REVIEW**

**Careers in the Age of Industry 4.0 and the Factors Affecting Them**

Career planning in the Industry 4.0 era is a continuous self-assessment process, followed by setting the right career goals (Athanasou & Perera, 2019; Rue et al., 2016). Recently in many countries, the development of entrepreneurial skills through training and education in schools and universities has become a national strategic program (Lindner, 2018; Strachan, 2018). In the Industry 4.0 era, the opportunity for the millennial generation to develop entrepreneurship through building a new start-up or an enterprise that runs in the online field is very open (Al Mamun et al., 2017; Chen, 2013). Students must be able to take advantage of current opportunities by planning a career as an entrepreneur based on the value of the Industry 4.0 revolution (Liu et al., 2019; Rodchenko et al., 2021). Several previous studies have mentioned that student career planning in the Industry 4.0 era has been influenced by the management of student career center units, entrepreneurship personality, family environment, entrepreneurship education, and student entrepreneurship intention (Engel et al., 2017; Sharma, 2014; Vodă & Florea, 2019). Hypothesis 1 follows:

H1: Simultaneous contributions exist between CC, EP, FE, EE, EI and FC.
**Student Entrepreneurship Intention**

The intention to engage in entrepreneurship is also based on feelings of pleasure and a desire to be involved in business activities (Kadir et al., 2012; Kallas, 2019). Previous research has proven that the role of student career center management, entrepreneurship personality, family environment and entrepreneurship education influence positively and significantly on student entrepreneurship intention (Farrukh et al., 2017; Mustapha & Selvaraju, 2015; Vega-gómez et al., 2020). The success of an entrepreneurship development program carried out by career center units within the university (Kallas, 2019) is also supported by a strong entrepreneurship personality that is demonstrated through self-confidence, originality, task-, work- and future-orientation orientation, risk-taking and leadership (Donnellon et al., 2014; Sirin, 2019). Also, the role of families that support children in entrepreneurship takes the form of family attitudes and treatment and family economic status (Muchtar et al., 2018; Suratno et al., 2021), as well as the application of concepts and practices of proper entrepreneurship education (Ahmed et al., 2020; Gorgievski et al., 2018), can increase student entrepreneurship intention. This leads to hypothesis 2:

**H2:** Simultaneous contributions exist between CC, EP, FE, EE and EI.

**EI and FC in the Industry 4.0 Era**

Student entrepreneurship intention influences student career planning in the Industry 4.0 era (Mahmood et al., 2019; Meoli et al., 2020). Several previous studies have shown that entrepreneurial career planning is influenced by students' entrepreneurial intentions (Godwin et al., 2016; Kallas, 2019). Beeka and Rimmington (2011) explained that entrepreneurship is the right career plan to deal with this era of globalization. Chen (2013) added that entrepreneurship intentions that are owned by students could be followed up in career planning that will be applied upon graduation. Therefore, career planning should be formulated as early as possible based on the opportunities and challenges that exist, and one should pay attention to one's abilities to minimize the risk of career failure as an entrepreneur (Beeka & Rimmington, 2011; Meoli et al., 2020). Hypothesis 3 is thus established:

**H3:** A direct contribution exists between EI and FC.

**CC, EI and FC in the Industry 4.0 Era**

Some recent studies suggest that career center units can influence student entrepreneurship intention, followed by entrepreneurial career planning (Engel et al., 2017; Yildiz, 2018). Career center units can encourage students to be interested in planning an entrepreneurial career through the provision of adequate knowledge, concepts, strategies and entrepreneurial skills (Boldureanu et al., 2020; Memon et al., 2015). A well-managed career center unit will support the creation of graduates who have an entrepreneurship intention and strong character to formulate an entrepreneurial career plan in the context of Industry4.0 (Engel et al., 2017; Olugbola, 2017). The following hypotheses are established:

**H4:** A direct contribution exists between CC and EI.

**H5:** A direct contribution exists between CC to FE.

**H6:** An indirect contribution exists between CC and FC and through EI.

**EP, EI and FC in the Industry 4.0 Era**

Entrepreneurship personality is related to the ability of students to plan a career in the Industry 4.0 era. A strong entrepreneurship personality determines students' entrepreneurship intention (Godwin et al., 2016; Mustapha & Selvaraju, 2015). An essential entrepreneurship personality is used as an essential tool or opportunity in one's early career decisions (Yildiz, 2018). There have been many studies that show a positive and significant contribution of the influence of the entrepreneurship personality on entrepreneurship intention and career planning of students in the Industry 4.0 era (Godwin et al., 2016; Yildiz, 2018). The following hypotheses are established:

**H7:** A direct contribution exists between EP and EI.
H8: A direct contribution exists between EP and FC.

H9: An indirect contribution exists between EP and FC and through EI.

**FE, EI and FC in the Age of Industry 4.0**

The family environment is one of the factors influencing entrepreneurship intention (Farrukh et al., 2017; Suratno et al., 2021). A child grows and develops in a family that provides guidance and direction to the child about his life and future (Muchtar et al., 2018; Mustapha & Selvaraju, 2015). Nguyen (2018) stated that parental factors have a significant impact on career choices to become entrepreneurs. Some recent research has shown the positive influence of the family environment on students’ intention to plan a career as an entrepreneur (Nguyen, 2018; Sharma, 2014). The following hypotheses are established:

H10: A direct contribution exists between FE and EI.

H11: A direct contribution exists between FE and FC.

H12: An indirect contribution exists between FE and FC and through EI.

**EE, EI and FC in the Industry 4.0 Industry Era**

Entrepreneurship education is positively and significantly related to entrepreneurship intention (Colombelli et al., 2022; Vega-gómez et al., 2020). Entrepreneurship education becomes a critical component that can give someone a boost in determining career choices (Li & Islam, 2021; Wu et al., 2022). Several studies have shown that the more experience and mastery provided in entrepreneurship by involving aspiring entrepreneurs in the learning process of running a business and the development of a business plan will have an impact on entrepreneurial intentions and career planning in the Industry 4.0 era (Ahmed et al., 2020; Walter & Block, 2016). The following hypotheses are established:

H13: A direct contribution exists between EE and EI.

H14: A direct contribution exists between EE and FC.

H15: An indirect contribution exists between EE and FC and through EI.

**METHODOLOGY**

**Research Design**

A quantitative approach using structural equation modeling has been used in this study in order to understand the relationship between variables comprehensively. Numerical data collected via survey techniques about student perceptions related to the variables studied are used in this study. Figure 1 shows the proposed theoretical model.

**Population and Sample**

The population in this study consists of 6509 students at the Universitas Negeri Malang, Indonesia. The respondents in the study were 6th and 8th-semester students. They were selected because they would have taken courses and entrepreneurship training organized by the university. The sample of respondents was 381 students, determined by using a proportional random sampling technique. The demographics of respondents in this study consist of, (a) Gender, male: 149 (39.1%) and female: 232 (60.9%); (b) Faculty, faculty of education: 62 (16.3%), faculty of letters: 52 (13.6%), faculty of mathematics and science: 54 (14.2%), faculty of economics: 72 (18.9%), faculty of engineering: 57 (15.0%), faculty of sport science: 29 (7.6%), faculty of social science: 44 (11.5%), and faculty of psychology education: 11 (2.9%); and (c) Parents profession, civil servant: 107 (28.1%), General employee: 143 (37.5%), Entrepreneur: 82 (21.5%), and Others: 49 (12.9%).

**Data Collection Instrument**

The data collection instrument used a closed questionnaire. The instrument for measuring CC variables has adapted the instrument developed by Memon et al. (2015). Meanwhile, to measure EP variable, the instrument developed by Farrukh et al. (2017) was adopted, and the instrument developed by Koch et al. (2015) was adapted to measure FE. Furthermore, the instrument developed by Nabi et al. (2017) was adapted to estimate the EE variable. Meanwhile, to measure the EI variable, an instrument developed by Liñán and Chen (2009) was used, and an instrument developed by Gorgievski et al. (2018) and Meoli et al. (2020) was used to measure FC. The questionnaire items were originally in English but were translated by
experts from English into Bahasa Indonesia for better comprehension by the respondents. The validity and reliability of the instrument were determined based on the corrected-item correlation (CIC) and Cronbach’s alpha (α). The CIC and α value thresholds are 0.30 and 0.70 (De Vaus, 2013). The CC variable has an α value of 0.93, and the range of the CIC value is 0.64-0.81. The EP variable has an α value of 0.86, and the range of the CIC value is 0.55-0.89. The FE variable has an α value of 0.90, and the range of the CIC value is 0.61-0.88.

Figure 1. Theoretical Framework Model
Source: (Engel et al., 2017; Gorgievski et al., 2018; Liu et al., 2019; Suratno et al., 2021; Vodă & Florea, 2019)

Data Analysis
SEM (structural equation modeling) using the AMOS 24 program was carried out in the data analysis of this study. As is known, SEM can help researchers to analyze direct and indirect contributions and build complex contribution models (Byrne, 2016; Hair et al., 2010). The validity and reliability of indicators for
measuring hypothetical constructs are evaluated based on the measurement model, while structural models are used to identify contributions between variables that cannot be observed and relate to contributions between variables as proposed by the hypothesis (Hair et al., 2010).

**RESULTS**

The results of the data normality test can be seen on the multivariate line, which shows the critical ratio (CR) value of 2.51 (±2.58). When then the CR value for kurtosis and skewness of all indicators is not bigger than ±2.58, based on this value, the data is normal, both at the multivariate and univariate levels (Byrne, 2016). Based on the data analysis, the largest Mahalanobis Distance (MD) value is 78.98, and the chi-square value is 253.81. According to Blunch (2013), if the MD value is bigger than the chi-square, there is a multivariate outlier problem. Based on the analysis results and the criteria from Blunch (2013), the data are free from outlier problems.

| Table 1. Evaluating of Measurement Model |
|------------------------------------------|
| **Construct** | **Item Code** | **Loading** | **AVE** | **CR** |
|----------------|---------------|-------------|---------|--------|
| FC             | FC1           | 0.80        | 0.70    | 0.90   |
|                | FC2           | 0.80        |         |        |
|                | FC3           | 0.88        |         |        |
|                | FC4           | 0.85        |         |        |
| EI             | EI1           | 0.88        | 0.76    | 0.91   |
|                | EI2           | 0.87        |         |        |
|                | EI3           | 0.87        |         |        |
| CC             | CC1           | 0.90        | 0.78    | 0.94   |
|                | CC2           | 0.89        |         |        |
|                | CC3           | 0.92        |         |        |
|                | CC4           | 0.83        |         |        |
| EP             | EP1           | 0.77        | 0.69    | 0.93   |
|                | EP2           | 0.89        |         |        |
|                | EP3           | 0.82        |         |        |
|                | EP4           | 0.87        |         |        |
|                | EP5           | 0.80        |         |        |
|                | EP6           | 0.83        |         |        |
| FE             | FE1           | 0.69        | 0.68    | 0.86   |
|                | FE2           | 0.94        |         |        |
|                | FE3           | 0.82        |         |        |
| EE             | EE1           | 0.96        | 0.68    | 0.86   |
|                | EE2           | 0.85        |         |        |
|                | EE3           | 0.65        |         |        |

Source: author’s work.

| Table 2. The Fit Indices of The Model |
|--------------------------------------|
| **No.** | **Goodness of Fit Indices** | **Results of the Testing Model** | **Cut-Off Value** | **Decision** |
|---------|-----------------------------|---------------------------------|-------------------|--------------|
| 1       | RMSEA                       | 0.06                            | ≤ 0.08            | Good         |
| 2       | AGFI                        | 0.91                            | ≥ 0.90            | Good         |
| 3       | GFI                         | 0.93                            | ≥ 0.90            | Good         |
| 4       | CMIN/DF                     | 1.69                            | ≤ 2.00            | Good         |
| 5       | CFI                         | 0.96                            | ≥ 0.95            | Good         |
| 6       | TLI                         | 0.96                            | ≥ 0.95            | Good         |
| 7       | Probability                 | 0.06                            | ≥ 0.05            | Good         |
| 8       | $\chi^2$ Chi Square         | 253.81                          | ≤ 256.68          | Good         |

Source: author’s work.
As can be seen in Table 1, convergent validity and reliability obtained satisfactory results. Reliability is assessed based on CR (Composite Reliability), which is bigger than (0.70). The indicators included in the test are required to have a loading value > 0.50 (Hair et al., 2010), and the required AVE (Average Variance Extracted) size is > 0.50. Table 2 shows that the goodness of fit index is within the recommended criteria (Byrne, 2016; Hair et al., 2010).

The next step is the interpretation of the model. Figure 2 shows the results of SEM. Hypothesis testing can be seen in Table 3, with Table 4 presents the size of effect contribution between the research variables.

As can be seen in Figure 2, the contribution of CC, EP, FE, and EE on FC shows significant results either simultaneously or partially. The contribution is also significant when EI is added to the model as a moderator. Meanwhile, the direct contribution of CC on FC is 0.26. If the
magnitude of the indirect contribution through EI is added, the total contribution is 0.42. The direct contribution of EP on FC is 0.62, and if the magnitude of the indirect contribution is added, the total contribution is 0.86. The direct contribution of FE on FC is 0.36, but if the magnitude of the indirect contribution is added, the total contribution is 0.48. Furthermore, the direct contribution of EE on FC is 0.31. However, when the magnitude of the indirect contribution is added, the total contribution is 0.39. In short, the effort to encourage students to have careers as entrepreneurs in the Industry 4.0 era can be made through several scenarios, including strengthening the role of student career centers, providing appropriate entrepreneurship education, strengthening entrepreneurial personalities, and strengthening the role of the family environment, which can increase student entrepreneurship intentions.

### Table 3. Hypothesis Testing Results

| No. | Variable | P-value | Cut of Value | Decision |
|-----|----------|---------|--------------|----------|
| 1.  | CC, EP, FE, EE and EI → FC | 0.00 | 0.05 | H1 Accepted |
| 2.  | CC, EP, FE, and EE → EI | 0.00 | 0.05 | H2 Accepted |
| 3.  | EI → FC | 0.00 | 0.05 | H3 Accepted |
| 4.  | CC → EI | 0.00 | 0.05 | H4 Accepted |
| 5.  | CC → FC | 0.00 | 0.05 | H5 Accepted |
| 6.  | CC → EI → FC | 0.00 | 0.05 | H6 Accepted |
| 7.  | EP → EI | 0.00 | 0.05 | H7 Accepted |
| 8.  | EP → FC | 0.00 | 0.05 | H8 Accepted |
| 9.  | EP → EI → FC | 0.00 | 0.05 | H9 Accepted |
| 10. | FE → EI | 0.00 | 0.05 | H10 Accepted |
| 11. | FE → FC | 0.00 | 0.05 | H11 Accepted |
| 12. | FE → EI → FC | 0.00 | 0.05 | H12 Accepted |
| 13. | EE → EI | 0.01 | 0.05 | H13 Accepted |
| 14. | EE → FC | 0.00 | 0.05 | H14 Accepted |
| 15. | EE → EI → FC | 0.00 | 0.05 | H15 Accepted |

Source: author’s work.

### Table 4. Summary of Direct and Indirect Contributions Between Research Variables

| No. | Variable | Contribution | Total |
|-----|----------|--------------|-------|
|     |          | Direct | Indirect |       |
| 1.  | CC → EI | 0.40   | -       | 0.40  |
| 2.  | EP → EI | 0.58   | -       | 0.59  |
| 3.  | FE → EI | 0.29   | -       | 0.29  |
| 4.  | EE → EI | 0.20   | -       | 0.20  |
| 5.  | CC → FC | 0.26   | 0.16    | 0.42  |
| 6.  | EP → FC | 0.62   | 0.24    | 0.86  |
| 7.  | FE → FC | 0.36   | 0.12    | 0.48  |
| 8.  | EE → FC | 0.31   | 0.08    | 0.39  |
| 9.  | EI → FC | 0.41   | -       | 0.41  |
| 10. | CC, EP, FE, EE and EE simultaneously → EI | 0.47 | - | 0.47 |
| 11. | CC, EP, FE, EE, and EI simultaneously → FC | 0.52 | - | 0.52 |

Source: author’s work.

**DISCUSSION**

Services provided by career center units can influence student entrepreneurship intention (Boldureanu et al., 2020; Engel et al., 2017), and as the results of this study show, career center management contributes to student entrepreneurship intention. Research conducted in Malaysia by Al Mamun et al. (2017) suggested that promoting entrepreneurship is one way to
overcome the issue of work eligibility. The study conducted by Mahmood et al. (2019) in the digital era as it is today indicated that the millennial generation has high entrepreneurship intention. Entrepreneurship intention comes from the opportunity to build a new start-up or a business that is in the online field. Opportunities in entrepreneurship are quite wide open, so students must be able to take advantage of current opportunities (Liu et al., 2019).

The results of the study show that the management of student career centers has a direct contribution to student career planning in the era of Industry 4.0. The results of this study support the results of research by (Engel et al., 2017 and Gorgievski et al., 2018). The results also show a different scenario by including entrepreneurial intention as a variable that mediates the effect of the management of a student career center on student career planning. As one form of educational innovation to improve the quality of career planning and selection of graduates, the career center unit organizes education, training, and student entrepreneurship coaching to suit student career intention, which in turn can stimulate students to plan careers as entrepreneurs in the future (Olugbola, 2017; Strachan, 2018).

Entrepreneurial personality in this study is also determined as one of the factors that contribute to student career plans. According to Yildiz (2018), an essential entrepreneurship personality is used as an essential tool or opportunity in one's early career decisions. Independent students may choose careers as entrepreneurs because they are better able to recognize opportunities to start a business (Mustapha & Selvaraju, 2015). Besides, students who are independent, work-oriented and view the future with a high level of confidence tend to plan a career as an entrepreneur, largely because entrepreneurial activities require courage in taking risks in real-world situations (Hynes et al., 2011). Hisrich et al. (2016) stated that entrepreneurship personality influences student intention in entrepreneurship; this statement is also supported by the results of this study. This research also indicates that students who have an entrepreneurship personality will positively contribute toward their intention to engage in entrepreneurship and include entrepreneurship in their future career plans. Students who have an entrepreneurial personality also will be able to be independent and can manage business opportunities for themselves and others (Feist & Gregory, 2014; Sirin, 2019).

Based on the results of this study, the family environment has a direct contribution to entrepreneurship intention. Shirokova et al. (2016) stated that the family environment influences student entrepreneurship intention. A family environment in which entrepreneurship is present can provide an example to children when they are young, as does being exposed to the financial and non-financial aspects of being an entrepreneur. Both of these make it easier to become an entrepreneur (Alma, 2013; Suratno et al., 2021). This research also shows that the family environment has direct and indirect contributions to student career planning in the Industry 4.0 era through entrepreneurship intention (Nguyen, 2018; Sharma, 2014). Students rely on informal sources such as social networks, family members and universities for support in planning careers as entrepreneurs (Muchtar et al., 2018). Parents play an essential role in developing student entrepreneurial self-efficacy by encouraging them to be involved in entrepreneurial activities (Hanson & Olson, 2018).

Entrepreneurship education in this study is also one of the factors that directly contribute to student career planning in the Industry 4.0 era, echoing the results of research by (Chen, 2013; Nieuwenhuizen et al., 2016). According to Davey et al. (2016), the career development of successful entrepreneurs is recognized as part of the university's role. The findings of Voda & Florea (2019) showed that effective implementation of entrepreneurship education at the university level could affect student entrepreneurship intention, which is also in line with the results of this study. This research emphasizes that effective entrepreneurship education focuses on the principle of starting a business. Some recent research notes that universities must further improve learning facilities and resources that can help students in practicing their entrepreneurial competencies at university (Davey et al., 2016; Mustapha & Selvaraju, 2015). This research indicates that the implementation of entrepreneurship education in a higher education environment that encourages the application of authentic learning processes, provides field experience, gives guidance in developing business plans, as well as
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running a business that are given to high-value students can increase students' entrepreneurial intentions.

Based on the results of this research, career center management, entrepreneurial personality, family environment and entrepreneurship education have a simultaneous contribution on students' entrepreneurial intentions. In the Industry 4.0 era, where technological developments are increasingly massive, the tendency of student entrepreneurship intentions has been more inclined toward businesses in information technology (Chen, 2013). Student entrepreneurship intention will increase through entrepreneurship coaching conducted by career center management, the entrepreneurship personality owned by students, the support of the family environment, and also the implementation of appropriate entrepreneurship education (Hisrich et al., 2016; Mustapha & Selvaraju, 2015; Suratno et al., 2021).

This study shows that entrepreneurship intention has a direct contribution to the career planning of students in the Industry 4.0 era, as has also been shown in the results of research (Chen, 2013; Vodă & Florea, 2019). A keen student entrepreneurship intention will further strengthen students' career planning. Career planning in the Industry 4.0 era is essential to be owned by individuals (Athanasou & Perera, 2019; Rue et al., 2016). Someone in the career planning process is influenced by factors originating from oneself and from outside oneself (Athanasou & Perera, 2019; Engel et al., 2017). All of this is in line with the results of this study, which shows that the management of the student career center, entrepreneurship personality, family environment, entrepreneurship education, and entrepreneurship intention have a direct contribution to student career planning in the Industry 4.0 era.

**CONCLUSION AND RECOMMENDATIONS**

This research has several limitations. First, it was only conducted at one public university in Indonesia, further research can replicate the research in both high and low-performing public and private universities to obtain a wider generalization of the findings. Second, this study uses a quantitative approach with student respondents. However, further research can use a qualitative approach by combining several data collection techniques such as observation, documentation and interviews in order to obtain more in-depth findings. Despite these limitations, this research contributes academically by including student career center management variables as a predictor of student careers and practically by providing a recommendation that the higher education system should be able to improve the performance of career center management, strengthen entrepreneurship personality, incorporate the role of the family environment, and improve the quality of entrepreneurship education. The results also show that entrepreneurship personality is the factor that has the most significant contribution to encouraging students' intention to have a career as an entrepreneur. Further research can identify what factors can strengthen the entrepreneurial personality of the student so that the results of this study can be useful for increasing student interest in having a career as an entrepreneur. The Industry 4.0 Revolution has encouraged discussion of its implications for the world of education concerning employment. In the Industry 4.0 era, students who have entrepreneurial intentions have the opportunity to build businesses that best fit into it.

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