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# Knowledge Management, Information Technology, and Acceptance Students 'Readiness for Industrial Revolution 4.0

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***Abstract*—The purpose of this study was to examine the effect of knowledge management, information technology and *soft skills*, information sources, and personal problems on students' readiness to face accounting issues in industrial revolution 4.0. The research sample was 150 accounting students at Universitas Muhammadiyah Sidoarjo, Surabaya, and Gresik East Java, Indonesia. The results of the study are knowledge management, information technology and accounting student soft skills, students' personal problems partially affect the readiness of students to face *accounting issues in industrial revolution 4.0* while the source of information has no effect.**

***Keywords—Knowledge, Management, Information technologu, Student, Revolution 4.0***

## I. INTRODUCTION

Information technology and the industrial revolution 4.0 brought enormous *changes* and impacts on business and accounting. The existence of information technology brings major changes in business strategy, performance, and competitiveness [1][2] [3]. The existence of *big data, financial technology, artificial intelligence, internet of things, cyber of security* and *cloud accounting* are new things that cannot be avoided by businesses and accountants. There are four steps that must be taken by accountants in the face of the industrial 4.0 revolution, namely 1) awareness that with the industrial revolution 4.0 provides new opportunities and opportunities, 2) education, that the government and accounting education practitioners are required to make a relevant curriculum in accordance with the development of digital connectivity , 3) the development of the accounting profession can be done online, 4) the application of high standards in accountants[4]

Meanwhile, accounting education in Indonesia has done many ways to prepare students to face the industrial 4.0 revolution, such as conducting seminars, training, and workshops. But until now there has been no research that states the readiness of students in facing the industrial revolution 4.0. There are several factors that affect the readiness of students in facing the 4.0 industry revolution, for example knowledge management (KM), student information technology and soft skills, information sources, and personal problems of students.

Accounting students must have a KM in order to be able to accelerate their various knowledge, especially knowledge in accounting and finance in the revolutionary era 4.0. To increase the readiness of accounting students to face the 4.0 revolution, information technology must be mastered starting from general information technology to information technology in accounting such as Electronic Data Processing (EDP) for financial audits. The ability to master information technology is included in hard skills even though to support one's success one must also master soft skills, for example the ability to communicate, work in teams, confidence, enthusiasm, and others. The information source is also one of

 

the supporters of the readiness of accounting students to deal with the issue of accounting in the industrial revolution 4.0. Sources of information obtained from lecturer explanations, internet, social media, and television news will help increase knowledge about the industrial revolution 4.0. Personal problems of students also need to be considered as a determining factor for readiness to face the 4.0 revolution, for example the existence of friends who support their careers as public accountants.

This research is different from previous studies that have ever existed. Research on KMhas been conducted by[5] at the Indonesian East Java pharmaceutical company, [6] conducted KM research at the University library in Kenya, [7]conducted KM research at entrepreneur universities . This research is also different from the research of [8] about IT strategy and management support in internal business processes, competitiveness in financial and non-financial companies in Indonesia. This study is also different from the study of [9] who examined the influence of IT on the organizational structure and performance of engineering consulting firms in Iran. This research is also different from[10] who examined the influence of IT capabilities in Malaysian MSME companies. The purpose of this study is to examine the effect of knowledge management, information technology and soft skills of students, sources of information, and personal issues on the readiness of Accounting students to deal with accounting issues in industrial revolution 4.0.

## II. THEORETICAL STUDIES

Basic theories appropriate for this research are knowledge based theory [11] and technology accepted models [12];[13]. *Knowledge Based Theory (KBT) is* known as one of the formulation of strategies that must begin with one's abilities or competencies. Humans are seen as one of the true agents in a business. All tangible and intangible physical products are the result of human actions which ultimately depend on the ability of humans themselves. People in organizations create structures to express themselves. The structure here is not an object but a condition that is built from within a person to be able to interact with each other [14]

Meanwhile, *technology acceptance model* (TAM) is known as one of the concepts to identify and understand the factors that can influence the acceptance of the use of a technology. TAM has proven to be a theoretical model in helping to explain and estimate user acceptance of information technology. The TAM model shows several factors that can influence usage decisions on when and how they use a renewable technology.

## III. HYPOTHESIS

H1: There is an influence between *Knowledge Management* on readiness to face *Accounting Issues in Industrial Revolution 4.0*

H1: There is an influence between Technology, Information and *Soft skill of* Accounting Students on readiness to face *Accounting Issues in Industrial Revolution 4.0*

H3: There is an influence between Information Sources on readiness to face *Accounting Issues in Industrial Revolution 4.0*

H4: There is an influence between Personal Problems on readiness to face *Accounting Issues in Industrial Revolution 4.0*

## IV. RESEARCH METHODOLOGY

Population of this study is accounting students at Universitas Muhammadiyah in East Java. The research sample was Accounting students at Universitas Muhammadiyah Sidoarjo, Universitas Muhammadiyah Surabaya, and Universitas Muhammadiyah Gresik. The research sample was determined by purposive sampling of 50 students per university so that the total number was 150 students. Data analysis was performed with a data instrument test, namely the validity test and the reliability test. Further data analysis and hypothesis testing, by using multiple linear regression analysis, to test the hypothesis by using correlation coefficient analysis, determination ($R^{2)}$ and t test (partial) [15]

## V. RESEARCH RESULTS AND DISCUSSION

TABLE I. HYPOTHESIS TEST RESULTS PARTIAL TEST (T TEST)

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 1.138 | 1.384, | | | 822,412 | | |
| | Knowledge Management | (X1),154, | | 040,270 | 3.844, | | 000,514 | 1,947 |
| | Information Technology and Soft skill | (X2),334, | | 082,319 | 4.088, | | 000,415 | 2,407 |
| | Information Sources (X3) | -, 065 | , 076 | -, 054 | -, 865 | , 388 | , 647 | 1,546 |
| | Personal Problems (X4) | , 330 | , 094 | , 287 | 3,527 | , 001 | , 382 | 2,618 |

a. Dependent Variable: Readiness to Face Accounting Issues in RI 4.0 (Y)

*Source: Primary Data processed 2019*

*A. Knowledge Management has an Impact on Readiness to Face Accounting Issues in Industrial Revolution 4.0.*

The results of this study support the basic theory and previous research, namely knowledge management theory, KM research by [16] [17] The knowledge management possessed by students is an elaboration of all the knowledge they have as a result of formal and informal lectures such as participating in student organizations and extracurricular activities. Various activities such as seminars, scientific discussions, workshops, training, and competitions have been carried out by universities to equip students to face the issues of the industrial revolution 4.0. Accounting study programs in various universities have also organized curriculum workshops based on the industry 4.0 revolution by inviting various stakeholders and experts to formulate a curriculum that is able to develop learning so that students are able to compete in the revolution 4.0 era. The result is lectures that discuss, discuss, and practice various matters related to *big data, artificial intelligence, internet of things, cyber of security* and *cloud accounting*. This is what forms knowledge management, accounting students. Thus the greater the knowledge management possessed by accounting students, the more prepared they will be to face challenges in the era of the industrial revolution 4.0.

*B. Information Technology and Soft Skill Influence Readiness in Facing Accounting Issues in Industrial Revolution 4.0.*

The results of this study support the technology accepted model (TAM) and previous research by [18]. One of the recommendations for the Workshop on Accounting Curriculum based on the Industrial Revolution 4.0 is the improvement and addition of Accounting laboratory facilities that can support IT learning based on the Industrial Revolution 4.0. With these recommendations there will be improvements to the Accounting laboratory facilities and also information technology such as providing Wi Fi throughout the campus area. In addition to prepared information technology, student soft skills must also be improved. This is important so that students can always be enthusiastic for lifelong learning. Because basically the industrial revolution 4.0 is a change that will always be there from time to time, it requires soft skills such as enthusiasm for learning, curiosity, confidence and so forth. Thus the greater the information technology and soft skills owned by Accounting students, the more prepared they will be to face accounting issues in industrial revolution 4.0.

*C. Information Sources Have No Effect on Readiness to Face Accounting Issues in Industrial Revolution 4.0*

Based on the results of this study it can be interpreted that the information sources obtained by accounting students are still not good enough to be prepared for the resolution of the industrial revolution 4.0. Information sources that have been obtained by accounting students obtained from the internet, lectures on campus and social media have not been able to provide provisions to deal with accounting issues in industrial revolution 4.0. Choosing the right information source can also be used as an excuse for accounting students not getting information that can increase their knowledge of the industrial revolution 4.0. Thus accounting students must continue to increase access to sources of information about digital information practices during the industrial revolution 4.0. The university also has a duty to carry out learning and continuing education especially in gaining knowledge and skills in the field of information technology including in the search for quality information sources [19]

*D. Personal Problems Influence Readiness to Face Accounting Issues in Industrial Revolution 4.0*

In this study the personal problems of students are interpreted as a way to manage problems in each individual accounting student related to the readiness and ability to face the industrial revolution 4.0. These personal problems if not managed properly will become obstacles for students. Students must be able to change initially negative personal problems into positive ones by finding friends or groups that are able to solve the problem. Students must also be ready to live anywhere, anytime and in any situation facing accounting issues in industrial revolution 4.0[20]

## VI. CONCLUSION

Conclusion of this study is knowledge management, information technology and accounting soft skills, student personal problems partially affect the readiness of students to face *accounting issues in industrial revolution 4.0* while the source of information has no effect. The implication of this research is that students must be able to manage their knowledge, be able to utilize information technology, must have good soft skills, be able to choose the right source of information and be able to manage personal problems well in order to face accounting issues in industrial revolution 4.0.

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