Millennial Generation Profile: Challenges and Opportunities of Library and Information Science Study Program in Industri Revolution 4.0

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Abstract. The 4.0 industrial revolution encouraged millennial generation, icluding students of the Library and Information Science Study Program of Universitas Negeri Padang to prepare themselves not only in knowledge, but also equipped with skills, attitudes and characters. The purpose of this study is to describe (1) millennial generation profile of students of the Library and Information Science Study Program in the industrial revolution 4.0 and (2) the challenges and opportunities of the Library and Information Studies Study Program in preparing millennial generation in the industrial revolution 4.0. The method used in this study is a qualitative instrument in the form of a questionnaire. The way to take sample in this research is probability sampling. Types and sources of the data used in this study are primary data which obtained from questionnaires targeting all members of the represented students. The results of the study are disclosed as follows. *First*, there are six factors that form the profile of the millennial generation of the students of library and information science study programs: (1) the disruptive mindset factor shapes the profile of the millennial generation 70.20%, (2) the connected factors form the millennial generation profile of 52.53%, (3) creative factors shape the profile of millennial students 69.70%, (4) confidence factors shape the profile of millennial students 62.29%, (5) readiness factors shape the profile of millennial students 60, 10%, and (6) spiritual factors forming the profile of millennial generation students 58.18%. *Second*, the challenge is the study program in improving student competency through revitalizing the curriculum oriented on new literacy (data literacy, technology literacy and human literacy). The opportunity is that study program studenst are already in the digital mass, cellphone, internet and android technology and information is no longer limited by distance and time.

1. Introduction

Industrial revolution 4.0 push generation millennial, including students Library and of Information Science course of study the Universitas Negeri Padang to prepare well not only knowledge, but also reached skill, and attitude character. A course of study are required to prepare kids to be professional information /workers librarian; capable of analyzing the phenomenon in the library and of information science deeply; manage their information and as the preservation and responsible for supporting the realization of information and knowledge based community, and increased noble, believe and devotion, active in developing its environment both at regional level, national, and international.

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Millennial generation was introduced by William Strauss and Neil Howe in 1987. Millennial generation is a terminology that is currently widely discussed[1]. Millennial or sometimes also referred to as generation Y is a group of people born after generation X, are people born in the 1980-2000s [2]. In general, the literature depicts two main timeframes for this generation, those born between 1977 and the mid-1990s and those born between 1980 and the early 2000s) [3].

Members of Generation Y use various electronic devices simultaneously for learning and entertainment purposes)[4]. Digital technology, for example, has greatly influenced the behaviour of the Millennial generation, and represents a defining influence on this generation's characteristics, values, and expectations[3].

This millennial generation tends to be skeptical and cynical, has a high dependence on technology, and respects privacy. On the other side, they are formed to be more multi-tasking than the previous generation as well as relatively broader ways of thinking [5]. Millennials are (a) individuals who are good at socializing, especially in the communities they follow and wander through social media, people who are used to thinking out;(b) people who can think out of the box, are rich in ideas and ideas and are able to communicate brilliantly as evidenced by the growth of an industry driven by young people and; (c) those who are confident, have the courage to express their opinions, and are not afraid to debate in public, as is the case with social media[6]. One interesting phenomenon related to the relationship between millennial generation and social media is the virtual coachman debate[7].

The era of the fourth industrial revolution was colored by artificial intelligence, supercomputer, genetically engineered, nanotechnology, automatic car, and innovation [8]. This industrial revolution is a rapid change in the implementation of the production process where previously the work of the production process has commercial added value [9]. 4.0 industry as the technology revolution changed the way people consume, in scale, scope, complexity and the transformation of previous experience [10]. Model characteristics of industri 4.0 are a combination of some of the latest technological developments such as physical cyber systems, information and communication technology, communication networks, big data and cloud computing, modeling, virtualization, simulations and equipment that have been developed to facilitate human interaction with computers[11]. Millennial won't share the Xers' reverence for technology, having grown far too accustomed to it for that; but they will see it as a standard tool and expect to find well-developed systems in place[12].

The rapid development of technology the industrial revolution 4.0 very influential against occupation characteristics are currently, where skill and competence of the required number of basic consideration. At this time the utilization of technology and the internet so sophisticated, massive and deeply affect the business world and civil, industry civil society and consumers generally. New industrial patterns have an impact on job creation and new job skills and loss of some jobs. The digital revolution and the era of technological disruption are other terms of Industry 4.0. Called the digital revolution because of the proliferation of computers and the automation of record keeping in all fields. There are several challenges to industry 4.0 as follows: information technology security, and stability, the reliability of the production of lack of special skill, aversion changed stakeholders, and loss of many work because changed into automation [13].

The industrial revolution 4.0 provides both opportunities and challenges for students of the Library and Information Studies Program of Universitas Negeri Padang. The program should be of innovation in the industrial revolution, think a change how, organization , productivity , discipline , innovation open to change, aggressive in making a break with the creation curriculum and learning model that is flexible and contextual[14]. Therefore

educational institutions must be able to produce graduates who have added value according to the needs of the job market [15]. Education 4.0 relates education as ubiquitous where people, things and machines are connected to produce personalized learning. This new ecosystem transforms education institution into an smart and integrated education producing ecosystem)[16].

To know profile students course library and of information science that is the millennial, the challenges and opportunities in the program required for research. From trouble on the necessary research to know profile millennial generation students study program and to analyze and measuring the opportunities and challenges course of study in a graduate prepared to compete in the industrial revolution 4.0.

2. Method

The qualitative study is natural where researchers are the instruments in the key, data analysis is inductive with the results of research focuses more on the meaning of on a generalization [17]. Determination of informants in this study using purposive sampling technique. Sampling of the sample with a purposive sampling sample was selected by certain considerations[18]. Types and sources of data used in this study are primary data obtained from questionnaires representing all of the students represented by 99 students, interviews, documentary studies, observations and literature studies. An examination technique data is based on four criteria which is credibility, transferability, dependability, and confirmability [19]. The data obtained from the developed and been concluded and elaborated in accordance with the research in the shape of the systematic and clear [20]. Conclusions and verification can be obtained from a person skilled in their field and to encourage other data sources [21].

3. Result and Discussion

The results of this study aim to gather information about the millennial generation profile of library and information science study program students and the challenges and opportunities of study programs in preparing graduates to be competent in the industrial revolution 4.0. Profile of Millennial Generation of Students in Library and Information Science Study Programs

There are six factors that make up the profile of the millennial generation of students in the Library and Information Science Study Program. First, disruptive mindset factors affect the millennial generation profile as follows. 69 people who are sensitive to the environment with a percentage of 69,70% agree. Person who do something in a timely manner as many as 76 people with a percentage of 76,76 % agree. Person who directly follows up on a matter 67 people with a percentage of 67,68% agree. There are 66 people who always provide solutions or solutions with a percentage of 66,67% agree. Based on this percentage, it can be concluded that the majority of respondents were 70,20% argued that agreeing disruptive mindset factors shape the profile.

Second , factors other than a fuel connected form the profile of millennial generation as follows .Personally for all the staff who were skillful with sociable as mmiany as 68 a person with the percentage of 68,69 % all agree that there needs. Personal active surf in social media and internet as many as 51 one that 51, 51 % agree. Personally always use internet assistance to complete lectures as many as 47 people with a percentage of 47, 47% strongly agree. Based on this percentage, we can conclude the majority of respondents 52, 53 % believed that connected the profile agreed form millennial generation. This generation is realistic and

optimistic about life, and the future and aware of opportunities enabled by new technologies) [22].

Third, creative form factors profile millennial generation as follows. Personal that can think out of the box, rich in ideas and the idea as many as 68 people with the 68, 69 % agree. One who can communicate ideas and the ideas well as many as 64 people with the percentage of 64, 65 % agree. The sinless one took creative and full of innovation as many as 75 a person with the percentage of 75, 76 % all agree that there needs. Based on this percentage, it can be concluded the majority of respondents 69,70 % argues agree factors profile millennial generation creative form.

Fourth, confidence factors form the millennial generation profile as follows. Self-confidents as many as 69 people with a percentage of 69,70% agree. Personal dare to express opinions and not hesitate to debate in public as many as 59 people with a percentage of 59,60% agree. Personal who is easy to interact with new and communicative people 57, 58% agree. Based on this percentage, it can be concluded that the majority of respondents 62, 29% argued that the confidence factor formed the profile of millennial generation.

Fifth , factors readiness form profile generation millennial as follows. Personally for all the staff who was to be ready entering the era of disruption with on capability owned at present as many as 63 a person with the percentage of 63 , 64 % all agree that there needs. Personal prepared to compete to keep on survive in the era of disruption as much as 56 people with the percentage of 56,57 % agree. Based on this percentage, it can be concluded the majority of respondents 60,10 % argues agree factors affect the formation and readiness profile millennial generation. The result of this behaviour is an intrinsic motivation, they have a tough enterprising spirit and they want to influence the world)[23]

Sixth, the spiritual factors form the millennial generation profile as follows. We always read our religion and try to understand it as many as 63 people with a percentage of 63,64% agree. Individuals who like to share as many as 45 people with a percentage of 45,45% agree. Individuals who like to share as many as 61 people with a percentage of 61,62% agree. Personal always pray before and after doing something 61 people with a percentage of 61,62% agree. Person who is always grateful for any situation 58 people with a percentage of 58,59% agree. Individual who obey the worship of 61 people with a percentage of 61,62% agree. Based on this percentage, it can be concluded that the majority of respondents 58, 18% thought that agreeing spiritual factors influence the formation of millennial generation profiles. This millennial generation is not just a high-productivity person, but also a religious person [5].The challenges and opportunities course library and of information science graduates in preparing to compete in the industrial revolution 4.0

The challenges of study programs in improving student competency through curriculum revitalization oriented to new literacy are data literacy, technology literacy and human literacy. The curriculum of the library and information Science Study Program is compiled based on the development of science and technology (scientific vision), community needs (community needs), as well as the needs of graduate users (stakeholder need), which is oriented towards the Indonesia National Qualification Framework and has a national vision as regulated in Presidential Regulation No. 8 of 2012, is a statement of the quality of Indonesia human resources whose qualifications are based on the level of ability stated in the formulation of learning outcomes[24] .

The learning system covering (1) curriculum and, character education (2) based on the basis of information and communication technology, (3), entrepreneurship (4), alignment and (5) evaluation [10]. That graduates can competitive, curriculum need to new orientation ,

because of the era of the industrial revolution 4.0, not only enough literacy long (reading , writing and mathematics) as capital a basis for actively involved in the community [25].

For that required new literacy is literacy, data literacy technology and literacy human. Literacy data relating to (1) data to identify what that exact, used for a specific purpose (2) capable of interpreting, visual data and charts (3) think critically about information produced by data analysis (4) understand, tools and the data analysis when and where used (5) recognize when the wrong way or used in error and (6) capable of communicating information about data to the needy. The efforts made by the program relating to literacy data by multiplying lecture the course of study.

Literacy technology required to reduce student (1) wellto-do use digital technology, a means of communication and tissues, (2) is able to detect the needs of information, access, manage, integrating and evaluate information, and (3) able to formulate information or new knowledge and can be communicated their concerns to several others. Efforts made by study programs by increasing courses related to information technology both for compulsory courses and study courses of choice.

Human literacy is important in the era of the industrial revolution 4.0 so that humans can function well in the human environment and can understand interactions with fellow humans. For this reason, study programs need to find methods to develop students' cognitive capacities (*higher order mental skills)*, criticak and systemic thinking. The curriculum of the study program refers to human literacy so that humans can function well in the human environment through: leadership and team work, cultural agility and entrepreneurship.

The curriculum of the study program consists of compulsory university courses, compulsory faculty courses and study program courses. The efforts made by course of study in revitalizing curriculum oriented literacy new as follows.

1. Increase the number of content in a course called interlocked information technology of or relating the use of information technology.
2. Behavior search information.
3. Social and cultural aspects of the law that deals with information technology as the digital gap, the impact of information technology on the community and legal aspects related to privacy.
4. The use of the name of a subject that is more contemporary or trendy

The application of the curriculum oriented literacy can only be seen in table below.

Table1. Application of the New Literacy Oriented Curriculum

No.	New Literasi	Curriculum
1.	Data Literacy 1. Being able to identify what data is exactly used for a paticular purpose 2. Able to interpret visual data, such as graphics and charts 3. Think critically about the information generated by data analysis 4. Understanding data analysis tools and methods, when and where they are used 5. Recognize when data is misinterpreted or used misleadingly 6. Able to communicate information about data	Courses 1. Statistics 2. Bibliometrics 3. Database Management

	to those who need it	
4.	Technological Literacy 1. Able to use digital technology, communication toolls, and networks. 2. Able to determine information needs, access, manage, integrate and evaluate information. 3. Able to formulate new information or knowledge and be able to communicate it to others.	Courses 1. Instroduction to Information and Communication Technology 2. Graphic and Electronic Publishing Management 3. Digital Library Development 4. Library Automation 5. Information Retrieval 6. Information Literacy 7. Website Design 8. Cooperation and Information Network
5.	Human Literacy 1. Creattive-innovative and entrepreneurial, and have cognitive flexibility to deal with the complexity of the problem 2. Have communication and collaborative skills and learn independently	Courses: 1. Communication Science 2. Professional English 3. IT- Based Entrepreneurship 4. Marketing and Promotion of Document Information Centre 5. Field Practice 6. Multimedia Communication 7. Business Information 8. Information Socio-Cultural Context

This study on the expertise and mindset of the millennial generation has prompted my thinking about changes in teaching styles that could take place to better pre- pare students for the workplace [26]. The impact of the industrial revolution 4.0 on higher education is (a) course of study redefined for work and reorient the curriculum, (b) course of study develop education approach and methods of learning including learning contextual working with industry, (c) implemented a hybrid or blended learning, (d) develop the quality or qualifications of lecturers and their pedagogical abilities as well as ICT, (e) develop supporting facilities and infrastructures for learning lessons oriented to the industrial revolution 4.0 values and (f) to develop and implement quality assurance systems in restrained and measurable[27].

The course where students study program was already in digital mass, cellphone, the internet and technology android and information is not limited by time and distance. For it a course of study of information science is obliged to formulate library and strategic policy in a number of aspects ranging from institutional , curriculum and resources. There are five important elements that must be a concern and will be implemented by the Ministry of Research and Technology to encourage economic growth and national competitiveness in the era of the Industrial Revolution 4.0, namely (a) more innovative learning systems in higher education such as adjusting the learning curriculum and increasing students' ability in aspects of data literacy, technological literacy and human literacy; (b) the reconstruction of higher education institutional policies that are adaptive and responsive to the industrial revolution 4.0 in developing the transdiscipline of science and the required study programs; (c) preparation of human resources especially lecturers and researchers as well as responsive, adaptive and reliable engineers to deal with the industrial revolution 4.0; (d) breakthroughs in research and development that support the industrial revolution 4.0 and the research and development

ecosystem to improve the quality and quantity of research and (e) groundbreaking innovations and strengthening of innovation systems to increase industrial productivity and increase technology-based beginner changes[28].

4. Conclusions

The rapida development ofa technology is veri influential on the characteristics of jobs that exist today. Including work in the field of library and information management, starting from the transformation of administrative management systems governance and information. Based on the results of the study can be concluded as follows. First, there are six factors that make up the profile of the millennial generation of students in Library and Information Science Study Programs, namely disruptive mindset, connected factors, creative factors, confidence factors, readiness factors and spiritual factors. Second, the challenge is the study program in improving student competency through revitalizing the curriculum oriented on new literacy data literacy, technological literacy and human literacy. The opportunity is for students to study in digital mass, cellphone, internet and android technology and information is no longer limited by distance and time.

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