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SOFT SKILLS AS THE STRENGTH OF MILENNIAL GENERATION IN THE AGE OF AUTOMATION AND ARTIFICIAL INTELLIGENCE

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Abstract

The Millennials is a global population that will dominate the dynamic of human life in industrial revolution 4.0, therefore Millennials should possess the good soft skill to be the subject which contributes in the age of automation and artificial intelligence. The purpose of this article is to explain the result of research about soft skills as one of the strengths Millennials should have. The research method used in this study is a descriptive analysis that is conducted through field research with quantitative approach and questionnaire survey as the research instrument. The respondent population in this study was the university student as the millennial generation born in 1994-2001, the sample was taken by purposive sampling and 78 respondents were collected. The results of the study showed that from 22 various forms of soft skills that are needed to possess, 67,78% showed that 'often' behavior with more centralized distribution (deviation 8.44) compared with 'always' (deviation 12.06, average 18.47). It indicates that millennial generation has become accustomed to having a variety of soft skills. The answer "often" not "always" shows is more moderate compared to answer "always" which has ideal connotation. Among the various forms of soft skill, it exists a substantial subject that indicates the typical characteristic of millennial generation was the change management (70.50%), communication skill (76,90) and teamwork skill (76,90%) reached a high amount of percentage. It shows quantitatively that the state of millennial generation's soft skill nowadays has indicated form that is demanded by the age of automation and artificial intelligence.

Keywords: soft skills, the millennial generation, automation, artificial intelligence

Introduction

McKinsey-MGI (2016) report and research report was done by Suwardana (2017) reveal that every individual who is willing to own self-existence in the global competition has to prepare their mental state and competitive advantage skills. The main and straightforward path to prepare the skills is by acquiring a good behavioral attitude, increase self competencies and having the spirit of literacy. The preparation may be achieved through long life education and self concept through experience of working together accross generation as well as multidiscipline thus reflecting experience is the best teacher.

In higher education, technical and academic skills of the students are connected with their field of science they are learning, therefor, the soft skills dimention of the students are more into intra and inter personnal skills (Aly, 2017). Sailah (2008) stated that soft skills are contributing around 80% toward the students achievement in various profession and field of work.

Based on the explanation above, it is important to make meaning of soft skill in the current dynamic of automation era and artificial intelligence, moreover for the Millennial generation as the main performer and the next generation who will fill in the world of occupation in the 4.0 industrial revolution. Sailah (2008: 19) argues that soft skills are skills of persons in building relations with others (*inter-personal skills*) and skills in self-management (*intra-personal skills*) enabling the person to maximally develop his work performance”.

The important message from the concept defined by Sailah (2008) are: first, soft skills in nature are attached abilities of persons, which could be developed maximally and needed in the workplace as complimentary to hard skills abilities. Second, soft skills are differentiated into two categories, which are connected with individuals as well as connected with intra individuals. The examples of individuals soft skills are the ability to control self-emotion, are willing to take advice from someone else, managing the time, and always think positively. Meanwhile, the example of intra individuals are the ability to build relations or interact with other people, working together with other group, and so on. Third, soft skills are complementary of hard skills. When the hard skills are relating with the IQ, left brain as well as technical and academical capabilities are needed in the workplace, thus soft skills are relating with the EQ, right brain as well as the non-technical and non-academic capabilities which are needed in everyday lives.

The Millennials categorized as those who were born at the range of year 1982 to 2005 (Strauss & Howe, 2000), are generation that will dominate the human being population in the future and will face the age of 4.0 industrial revolution. Therefore, beside the technical skills, they will also need to add the soft skills. This is relevant with the report from the World Economic Forum which declares that 80% of skills needed by the workforce to compete at the age of 4.0 industrial revolution is the mastery of soft skills, whereas the mastery of technical skills is only 12%.

Objectives

This article is aiming at identifying the existing condition on variety of soft skills mastered by the Millennials, revealing the frequency of the soft skills implementation mastered by the Millennials in their everyday lives, assessing the scope of implementation of soft skills possessed by the Millennials, and describing the connection between mastered soft skills with the achievement of Millennials residing at Bandung City.

Research Questions

The questions of the research is how is the soft skills acquired by the Millennials residing at Bandung City which then being broken down into several sub research questions, which are:

1. What are the variations of soft skills mastered by the Millennial generation
2. What is the frequency of implementation of the soft skills mastered by the Millennial generation in their daily lives
3. What is the scope of the implementation of the soft skills mastered by the Millennial generation in their daily lives
4. How is the connection between the mastered soft skills with the achievement of the Millennial generation

Theory

Greenstein (2012) states that students in the 21st century have to master science, metacognitive skills, able to think creatively and critically, as well as able to communicate or collaborate effectively. Osman, Hiong, and Vebrianto (2013) describe five main domain skills in the 21st century, they are digital literacy, intensive thinking, effective communication, high productivity and moral spiritual value. Continue on that, Griffin & Care (2015) categorized skills and attitude in the 21st century as ways to thinking (knowledge, critical and creative thinking), ways to learning (literacy and soft skills), and ways to learning with other (personal, social, and civic responsibilities).

US-based Partnership for 21st Century Skills (2015) identify *critical thinking skills*, *creative thinking skills*, *communication skills*, and *collaboration skills* as competencies necessary in the 21st century (Partnership for 21st Century Learning, 2015). The competencies are known as the 4C competencies, consist of critical thinking skills – which is the fundamental skills in problem solving necessary mastered by students in locating the source of problems and how to search for and find the appropriate solution to address the problems. Creative thinking skills – which is skills relating with utilizing new approach to address a problem, innovation and discovery. Communication skill – skills to express thinking, ideas, knowledge or new information acquired verbally or written (National Education Association, 2010). This skills are listening, writing and public speaking. Collaboration skill – skills to work together effectively and respecting variety of teams, exercising the smoothness and willingness in necessary decision making to achieve common goals (Greenstein, 2012; National Education Association, 2012). The skills covering working together in groups as well as leadership, decision making and cooperation.

Various skills in 4C competencies are obligated to be mastered and acquired by every students as Millennial generation in addressing the challenge of 21st century, which is where lives are very influenced by digital and known as digital native. By being mindful of the Millennials who will dominate the human population in the future, thus they have to master good soft skills to make them become the subject of the dynamic of automation and artificial intelligence age, which consist of critical thinking skills, creative thinking skill, communication skills and collaboration skills.

According to LaFrance (2016: 4), soft skills are defined as personal and interpersonal behavior develop and maximizing someone's performance including self confidence, flexibility, honesty and self integrity. Similarly to that is Elfindri et, al. (2011: 67) definition on soft skills that is proficiency and live's skills, either for the individual himself, groups or community as well as with God. By acquiring the soft skills, the existence of a person will be sensed within the community due to the mastery of skills in communication, emotional, language, groupwork, value and ethic and also spiritual.

With good soft skill, the Millennials are expected to take on active role in the 4.0 industrial revolution. However, Khasali (2018) mentions the millineals as strawberry generation, describe as fascinating generation, but is fragile because they do not have strong mentality and values, delicate generation yet stunning, full of creative ideas yet quitter and resentful. Whereas, according to Khasali (2018) success can not be achieved through short cut, thus the delicate mentality should be changed and the youth shoud not be part of the strawberry generation in facing changes, either the unavoidable or that has to be worked on.

Methodology

The method used in this research is quantitative descriptive. The data collection technique is field research using questionnaire as the research instrument consist of open and close questions. Utilizing Likert Scale, the questionnaire states agreement and disagreement of respondents towards statements connecting with research objects, which are soft skills mastered by the Millennial generation. The sampling technique used is the non-probability sampling method that is purposive sampling. The population is 520 student as Millennial generation who were born in the range of year 1994 to 2001, then the sample elected as much as 15% (Sugiyono, 2009), thus determined 78 individuals as sample of the research. The age range is in line with Strauss and Howe (2000) who stated that Millennial generation is those who were born in the year 1982 to 2009. In the result and discussion section, the samples of this research then will be called research subject or college students.

Literature Review

Millennial Generation

The generation that was born during the massive use of technology is called by two historian experts and American writer, William Strauss, and Neil Howe (2000) millennials. Generation according to them is something that formulated by events or condition in accordance with live's phase of its members at the moment. Compared with prior generation, the Millennial generation possess unique character based on region and socio-economic condition. Several characteristic of Millennial generation according to Strauss and Howe (2000) are:

1. The escalation usage and familiarity with comunication, media and digital technology.
2. Creative, informative, passionate and productive.
3. Always involving technology in every aspect of lives. This is visible that almost all individuals of this generation choose to use smart phone. With the gadget, Millennials are becoming more productive and efficient, enabling them to various tasks, including sending short message, accessing educational sites, online business transaction to create various new opportunity parallel with the current sophisticated technological development.
4. Open communication characteristic, fanatic social media junkies, whose lives are very much influenced with technology advancement and are more open to politic and economic point of view, thus they are seen as very reactive.

Strauss and Howe (2000) continue to describe the Millennial characteristics that develop values of the community based on personal rules, standards and responsibilities: Millennials can make every place to become more mannered, structured and developed that are civic-minded. In higher education, the Millennials attitude do not against with culture, and running their lives like college students do. In the religious aspect, the Millennials are supporting friendly rituals and advancement of community instead of personally spiritual quest. Even in their 30s, they build closer relationship with their parents (some of them live nearby and listen more to their parents).

The Millennials build new concept of public space and use information to empower community. As the first generation that grow with cellular digital technology, the Millennials expect non-stop interaction with their friends that prior generations never thought of. The Millennials develop new standard for social networking, identifying series of attitudes and behaviors in cyberspace in more acceptable way.

Sebastian (2016) reveals several characteristic from this Millennial generation, which are (1). Speeding up everything (2). Changing jobs in short time. (3). Creative, dynamic, technology literate, close with social media, etc. Based on the characteristic, the business world consider the Millennials work in more orderly fashion with clear mandate and supervision and bigger amount for team project. The Millennials are looking for balance between worklife and personal life, and they try to start their career with impeccable start. Many of them avoid high risk which often being offered by company or professional business person.

The open communication and fanatic social media users characteristics have made their lives very influenced by the technology advancement and more open to political and economical perspectives. This phenomena preventing the Millennials from fear for the work place competition due to their knowledge on technology is considered sufficient to face the future. Therefore the Millennials are more interested on using electronic and online system instead of being bound to particular companies which automatically limit their movement in activity and creative in the age of digital technology (Umbas, 2019)

Authors elaborate more on Sebastian (2016) in more detail on characteristic of Millennial generations as follow:

1. Trust more to user generated content instead one way information, lack of believe to large companies and commercials, put forward their personal experience instead of commercial or conventional review of products.
2. Select smartphone instead of internet TV. For the millenals, commercial breaks in the television program are usually avoided. They prefer acquire information from the cell phone, and search through google or follow conversation in forums to keep up to date with the surrounding.
3. Having account in social media is a mandatory. The communication occurs in the the Millennial generations is very smooth. However, this does not in the form of face to face communication. Many Millennials communicate through text messaging or chatting in the cyberspace, by setting up account consist of their self profile, such as twitter, facebook, instagram, line, etc. The media social account then is considered as the venue to self-actualization and expression, because what ever they write will be accessible to almost everyone.
4. Doing cashless transaction. This generation prefer to not to bring cash, because now, almost every purchase are payable by cards, therefore, it is more convenient to be cashless. For example, public transportation such as busses and commuter line are also using e-money system, as well as cloth shopping with credit card and other commerce activities.
5. Less likely to read in conventional way. The population of people enjoying reading books is decreasing drastically especially in the Millennial generations. To this generation, written product is considered confusing and boring. The Millennial generation may be said to prefer picture, moreover when the pictures are interesting and colorful.
6. More aware on technology compare to their parents. This generation view the world indirectly and differently, which is through browsing the cyberspace, thus they become 'know everything'. From knowing how to communicate, to shop, getting information and other activities. Millennial generations is a very modern generation, can do more on technology than their parents, thus often they teach technology to their parents.

Strauss dan Howe (2000) describe Millennial generation in the workplace as persons that are more confident, can be trusted and becoming the source for learning. They

can serve better as long as the goals are clear and work in group. The Millennials have more skills to work together in group and tend to treat their colleague as partner instead as competitor. However, the Millennials are weak in basic work skills, such as on time and dress up appropriately, they also considered as high dependency, high fed and affraid to take risk.

Parallel with the perspective, electronic newsroom kompasiana.com states that Millennial generation tend to unloyal, but work effectively. It is predicted that in the year 2025, the Millennials will take on 75% position of workforce in the whole world. Recently, there are many leader positions are occupied by the Millennials. As being revealed by sociolab research, that many Millennials tend to ask for high salary, asking for flexible working hours and asking promotion in yearly basis. They are also not loyal to one occupation or companies, and more loyal toward brand (<http://www.kompasiana.com/ade5238/5c1c4f83677ffb455057d554/umurbisnis?page=all>). Based on that notation, therefor the mastery of soft skills by the Millennials are expected to overlay their existing weakness.

Soft Skills

Workplace is not only prioritizing the high academic skill or known as hard skill, but also put attention to skills on values attached to him/herself which also known as soft skill aspect. This proficiencies are known as non technical which also play important role alongside with academic skills.

Elfindri et al. (2011: 67) defines soft skills as proficiency and life's skills, either for themselves, groups or community as well as with God. Elfindri, et.al. (2011: 175) elaborate more on the meaning of soft skill as follow:

All traits which causing the possessed hard skills to function. Soft skills may determine the way of using the hard skills. When someone master them well, then science, knowledge and skills mastered will open the tunnel of welfare and comfort to the master and the environment. In contrast, if someone does not have good soft skills, thus his/her soft skills would jeopardize himself or herself and anyone elses.

Meanwhile, Aribowo in Sailah (2008: 17), explain the meaning of soft skills as follow:

Soft skills are someone's proficiency in building relations with others (including with his/her self). Therefor, the atribut of soft skills are values held, motivation, behavior, habit, character and attitude. These soft skills atributs are possessed by everyone in different levels, influenced by habit of thinking, conveying, acting and behaving. However, these atribut may change when the persons are willing to make the change through practicing oneself to new approach.

From various definition mentioned above, thus can be formulated that basically, soft skills are the attached proficiency to everyone, waiting to be developed maximally and needed in the workplace as complimentary of the hard skills proficiency. The existence of hard skills and soft skills are better be balance, parallel and in the same path.

Aribowo in Sailah (2008) divide soft skills or people skills into two parts, there are intrapersonal skills and interpersonal skills. Intrapersonal skills are someone's proficiency in self management. It is suggested that someone should address this intrapersonal skills before begins building relations with others (2008: 18). Sailah (2008: 19) believed that "soft skills are someone's proficiency in relating with others (inter-personal skills) and

proficiency in self management (intra-personal skills) which will enable the person to develop maximally his/her performance”.

Meanwhile, Aly (2017) add the two category of soft skills above with combination of both soft skills. Aly (2017) categorized soft skills into three types which are: (1). Personal Soft skills, (2). Intra-personal Soft skills, (3). Combination of both soft skills. Each soft skills have their own profile, which are:

1. Personal Soft skills, consist of time management, stress management, change management, transformation of character, creative thinking and having positif goal guidelines.
2. Intra-personal Soft skills, consist of motivating, leadership, negotiating, presenting, communcating, building relationship, public speaking.
3. *Combination of both above soft skills*, which are honesty, responsibility, fair, working together, adaptation, communication, tollerant, respect to other, making decision and problem solving.

The Academic Directorate of Directorate General of Higher Education of National Education Department (2008) declares that in the process of selections of employees conducted by companies in general conducted based on logical thinking and analytical ability aspect in the early process, and then continued to character and working attitude selection. At the end phase, then the company will select based on technical and academic ability of their future employees. Especially during interview stage, the process is very soft skills minded, which is the ability to communicate effectively, critical thinking ability, respect for others ability and attitude as well as work motivation.

Findings

Research found that there are variety of soft skills mastered by the college students, which are categorized into three types, they are (1) personal soft skills, (2) intra-personal soft skills, (3) combination of personal and intra personal soft skills. In more detail, there are various forms of soft skills for every type. Personal soft skills consist of 6 forms which are time management; stress management; change management; transformation characteristics; creative thinking; and having positive goals guidelines. The intra-personal soft skills consist of 7 forms which are motivating, leadership, negotiation, prsentation, communication, building relations, and public speaking. As for the combination of soft skills, there are 9 forms which are level of honesty; level of responsibility; level of fair acting; working together; adapting; level of tollerant; respect to others; decision making; and problem solving.

The implementation of personal soft skills frequency mastered by the college students in their daily lives, are shown in table 1 below:

Table 1
Implementation of Personal Soft Skills

No.	Form of soft skills	Always	Often	Almost never	Never
1	Time management	24%	74%	1%	0%
2	Stress management	13%	54%	28%	5%
3	Change management	12%	71%	17%	1%
4	Character transformation	5%	73%	22%	0%
5	Creative thinking	14%	65%	21%	0%

No.	Form of soft skills	Always	Often	Almost never	Never
6	Positive goals guidelines	36%	63%	1%	0%

Source: Research result, 2019

From the above table, time management reach the highest percentage, because they are following the time dynamic of university, where of that 74%, most of them spent almost all of their time in doing activity within the student organization or extracurricular. This shows that the time management is often being conducted because they follow the activities in the student organizations.

Creative thinking which is connected with the concept of 4 Competencies (4C) often being conducted by 65% of respondents, this shows that thinking creatively is not priority for them.

Table 2 below representing the frequency of intra-personal soft skills implementation as follow:

Table 2

The Frequency of Intra-Personal Soft Skills Implementation

No.	Form of Soft Skills	Always	Often	Almost Never	Never
1	Motivating	21%	74%	5%	0%
2	Leadership	8%	64%	28%	0%
3	Negotiation	9%	64%	26%	1%
4	Presentation	8%	64%	28%	0%
5	Communication	13%	77%	10%	0%
6	Building relation	17%	62%	21%	1%
7	Public speaking	12%	49%	39%	1%

Source: Research result, 2019

Communication is included into 4C which have to be mastered by the Millennials, and from the table above communication skill is often performed by the respondents (77%), thus shows that the college students use their communication skills in their lives.

The frequency of the implementation of the combination of the soft skills between personal and intra personal skill are shown in the table 3 below:

Table 3

The Frequency of the Implementation of the Combination of the Soft Skills

No.	Form of Soft Skills	Always	Often	Almost Never	Never
1	Level of honesty	28%	68%	3%	1%
2	Level of responsibility	26%	69%	5%	0%
3	Level of fair acting	17%	77%	6%	0%
4	Working together	22%	77%	1%	0%
5	Adapting	15%	63%	22%	0%
6	Level of tollerant	44%	54%	1%	1%
7	Respect to others	50%	50%	0%	0%
8	Decision making	8%	69%	22%	1%

No.	Form of Soft Skills	Always	Often	Almost Never	Never
9	Problem solving	8%	67%	24%	1%

Source: Research result, 2019

Acting fair and working together are soft skills combination with highest rank in the often answer (77%). Working together or cooperating is also categorized as one of the skills of the 4C competencies important in the workplace for the 4.0 industrial revolution age.

The location where the respondents implement their soft skills in their daily lives are shown in table 4 below:

Table 4
The Location of Soft Skills Implementation

No.	Location of soft skills implementation	With implementation	Without implementation
1	Activities within campus area	94%	6%
2	Activities outside campus		
	a. Activities in the household level	23%	77%
	b. Activities in the neighbourhood level	23%	77%
	c. Activities in the village level	13%	87%
	d. Activities in the municipality level	3%	97%
	e. Activities in the city level	5%	95%
	f. Activities in the province level	6%	94%
	g. Activities in the national level	6%	94%
	h. Activities in the international level	3%	97%

Source: Research result, 2019

The soft skills are implied by the respondents mostly within campus area with activities connected with university lives, which 94%. Meanwhile, outside university area, the respondents seldom applied their soft skills. This is happened because the respondents who are university students are spending most of their time in university. However, they are still applied their soft skills outside campus area eventhough the percentage is low. This shows the consistency of applying soft skills in their lives.

The mastered soft skills in connection with achievement, the research shows that only 32% of the respondents are receiving merit. This means that soft skills are maybe not the only factor of persons achieving merits, however, the soft skills are still one push factors for a person to achieve a merit from certain parties.

Discussion

Parallel with McKinsey-MGI (2016) and Suwardana (2017) research reports, individual who are still wishing to be exist in global competition have to prepare their mental an skills with competitive advantage, and this research shows that the respondents as part of the Millennial generation have good soft skills.

Critical thinking, creative thinking, communication and collaboration skills (4C) are important and necessary in the age of automation and artificial intelligence to compete with not only with humans, but also with technology. The research shows the 4C skills are exist and being implemented by Millennial generations in variety occasion, place, and opportunity. The personal soft skills will determine the ability of conducting intra-personal soft skills and is being influenced by the combination soft skills. Communication and collaboration are the skills which is often conducted by the Millennials which in this research reach higher percentage compare to other skills as much as 77%. Meanwhile, the creative thinking only often conducted by 65% of respondents. Critical thinking is not included into form of soft skills perform by the respondents.

The data collected shows that the Millennial generation who are the subject of this research have master soft skills in good category.

For campus context, the respondents answer “often” may be due to main task of university students are learning in classes. The involvement of respondents in activities within campus environment is higher compare to activities outside campus area. This is important to be investigate in the future on the motivation of the college students in implementing their soft skills.

Various form of soft skills expressed by the Millennial generations are high percentage at the soft skills which are supporting the Millennial generation to face the job world at the 4.0 industrial revolution. The choice of “often” not “always” from the respondents show that their answers are more moderate compare to the choice of “always” which having the ideal connotation.

Limitations

There are some limitation of this research, which are:

1. The research subject is only limited to a certain environment, which is college students who are in university, and have not yet involving subjects from other type of Millennial generations, therefor, the findings are not for generalization.
2. The instrument was questionnaire, thus there is no room for deepen understanding or opportunity for clarification on answers provided.
3. Identified soft skills are only based on the respond from respondents, without investigating further on how the achieved their soft skills.

Recommendation

Recommendation of this research is that university will have to adjust the learning process of its students thus preparing and exercising the 4C competencies that are important in the 4.0 industrial revolution. Meanwhile, for future research, it is suggested that the respondents should be more varied from various school level until various background. Another research should be directed to how and where do the Millennial generation master their current soft skills proficiency.

Conclusion

The soft skills found in this research consist of personal, intra-personal and combination of both, these soft skills are supporting the Millennial generations to face the world of employment in the age of 4.0 industrial revolution. In the occupational world, soft skills are very important since the recruitment process or employee selection until after being accepted as employees and do the task. The balance between hard and soft skills are important. If a person only rely on hard skills proficiency, he or she can be diminished by someone with good soft skills proficiency.

This research was using college students as the respondents therefore when the respondents often implement the soft skills within campus is acceptable due to their main task as students and spending more time inside the campus area. However, this phenomena need more investigation on the motivation of the implementation, whether voluntarily or being forced by situation. The scope of implementing the soft skills in this research is campus area, due to the majority of the respondents reside nearby the campus area.

The connection between mastering soft skills and merits achieved for the Millennial generations are not strong, but it is still believe that soft skills serve as one push factor of a person achieved more in their lives.

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