



Changing role of millennial accountants in the information revolution era (Industry 4.0) and challenges in the society generation scope (Society 5.0)

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ABSTRACT

This study aims to analyze and test the influence of Revolution information (Industry 4.0) on the role of Accountants millennials with challenges on the scope generation community (society 5.0) as a moderating variable. This research uses approach descriptive and associative quantitative. The population in this study are Accountants and student candidates Accountants in Medan City with the selected sample by random sampling amounting to 110 people. Data analysis techniques using Structural Equation Model (SEM) with tools help Smart PLS V 3.2. Research Results show that there is an influence of Revolution Industry 4.0 towards changing the role of the millennial accountant. And challenge on the scope generation community (society 5.0) moderates the changing role of Accountants millennials in the era of industry 4.0.

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INTRODUCTION

The industrial revolution enabled new types of interactions between humans and machines (Romero et al, 2016). The industrial revolution has always been triggered by technological developments. Then Ghobachloo said the third industrial revolution was driven by the use of computers and automation in the manufacturing process (Ghobachloo, 2018). Currently, the world has entered an era known as the fourth industrial revolution or the term Industry 4.0 which greatly affects technological systems.

According to Arnida, accounting is quantitative, information is used in making decisions, it is recorded related to monetary matters and is valued at the value of money, records transactions that occur and is analyzed, is neutral or impartial to report users, has art in judgment and expertise is subjective and is information systems that coordinate with each other (Arnida Wahyuni, 2020)(Shahroom & Hussin, 2018)(Shahroom & Hussin, 2018). There are two types of accounting, namely Islamic accounting and conventional accounting and are accounting properties that are recognized by the economic community in general (Muammar, et al, 2017)(Piabuo & Tieguhong, 2017). Accountant is a profession that has developed from century to century and has experienced

ups and downs in maintaining its existence. This profession is increasingly developing into a business that creates public trust and is expected to be a promising profession (Muzio et al., 2013). Like consultants and detectives, public accountants or also known as auditors provide audit services to independent second parties whose aim is to gain proper trust in the object being examined.

Auditors can be divided into several types based on the object of the audit carried out both in private companies, State-Owned Enterprises (BUMN), government and other public sectors. In carrying out inspections, auditors are always guided by auditing standards both in actions and ethical behavior at work. The existence of the auditor profession was sparked by the world's largest financial scandal and public support for fighting corruption. An auditor, especially an internal auditor, must maintain his independence so that the validity of reports and proposals produced through internal audit can be relied upon (Adriansyah, et al, 2022)(Hoyle, 1978)(Lukman & Irisha, 2020).

Currently, the public accounting profession must have an awareness of the need for regeneration of millennial accountants (Haryanto & Sudaryati, 2020). The millennial generation or similar is also known as Echo Boomers who were born between the 1980-1990s or early 2000s which is a generation that has different behavior from previous generations. The millennial generation is very up to date with technology because they have been familiar with technological developments in society since birth. As a result, this generation cannot be separated from internet networks and other technology products. This generational shift then causes the business world to start preparing for the needs of the millennial generation. Millennials spend a lot of time with gadgets and internet networks (Aribowo et al., 2019).

There are also many millennials who then open buying and selling businesses online or become customers of these online business pages. This is getting stronger with the shift in era where the current industry in running its business no longer only relies on human intelligence but also technological intelligence or AI, which is called the Information Revolution era (Industry 4.0). This era accommodates business intelligence which is the result developed from technological discursiveness due to the millennial generation. This gave rise to a new name called the digital economy. Machines, software, and smart robots are now taking on many roles and seem to dominate the market. An example is E-Parking, in the previous era when we would park in public places there would be humans as parking ticket guards and we used cash for payment whereas in the current era we have used smart robots, we only need to press a button and a parking ticket will be issued. out by itself. And for payment, just scan the Qr Code on the parking ticket without the need to use cash.

Facing the latest industrial era today, the development of the digital economy has opened up new possibilities while simultaneously increasing risks. These changes had a significant impact on the development of accounting. In this era, technological developments and innovations seem to be catching up with time. New innovations encourage the creation of new markets and replace existing markets.

In the digital era and technological developments as it is now, the flow of information runs very fast, internet technology has changed the way a person views information, including in the world of business accounting. Technological developments change business, reducing the human resources needed in business including accounting staff. This has resulted in the accounting profession underestimating the impact of technology on accountants' work and becoming a tough challenge that must be answered.

According to Subur, there is a 95 percent chance that the accounting profession will be replaced by robots. This percentage is due to the development of robotics and data analytics (Big Data) which take over the basic work of an accountant (recording transactions, processing transactions, sorting transactions) (Subur, 2019). Therefore, Chief Executive Officer (CEO) of Data Driven Asia, Imran advises accountants to start learning programming and algorithms and must develop important competencies for an accountant, namely data analysis, information technology development and leadership skills.

The potential for technology to replace the role of the accounting profession is only a matter of time. The accountant's role will be strategic and consultative. Therefore, it is necessary to have a certification for an accountant, for example, to be fluent in technology, so that he is able to compete. An accountant must have a strategy, including mastering soft skills, both interpersonal skills and intra-personal skills, business understanding skills and technical skills in order to be able to face challenges in this digital era.

An accountant must be open minded about the development of the industrial revolution 4.0 and society 5.0 that will come to see the possibilities that exist. In Q.S Ar-Ra'd verse 11 Allah says:

إِنَّ اللَّهَ لَا يُغَيِّرُ مَا بِقَوْمٍ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ

It means:

"Surely Allah will not change the condition of a people, before the people themselves change what is in themselves." (Q.S Ar-Ra'd verse 11)

According to Kelvin, something can become extinct as a result of the inability to adapt to change (Suwandi, 2019). Companies can lose their competitiveness if they do not incorporate these changes into their business strategy and leadership strategy

Based on the explanation above, the writer takes the following hypothesis : H1: Industry 4.0 has a positive influence on the role of millennial accountants, H2: Society 5.0 has a negative influence on Industry 4.0

RESEARCH METHOD

This study uses an associative and quantitative descriptive approach. The population in this study were accountants and prospective accountants in the city of Medan as many as 300 people with a total sample of 110 people who were selected by random sampling from students and also accountants. For interviews, the sources came from KAP Gideoan Adi & Partners and also came from bank accountants at Bank Sumut. The type of data in this study is primary data collected using the survey method with the help of a prepared questionnaire. The data analysis technique uses the Structural Equation Model (SEM) with the help of the Smart PLS application tools. The data collected is first tested for validity and reliability by looking at the values in the outer model to determine the validity and reliability of the indicators being measured..

RESULTS AND DISCUSSIONS

Evaluation of Measurement Models

Measurement model testing will done to show validity and reliability test results. In this research, validity test done to find out is the construct is fulfilled conditions to continue as research or not. Tests using composite reliability values with the criteria of a variable are said to be reliable if the composite reliability value is > 0.600 (Hair, Hult, Ringle, & Sarstedt, 2014).

Table 1. Convergent validity

	Cronbach's Alpha	rho A	Composite Reliability	Average Variance Extracted (AVE)
Industry 4.0	0,949	0,949	0,954	0,550
Accountant role	0,848	0,949	0,954	0,547
Society 5.0	0,943	0,943	0,949	0,555
X * Z	1,000	1,000	1,000	1,000

Source: *Data Processing (2023)*

Based on the analysis data Convergent Validity in the table above, obtained results that variable Industry 4.0 has a mark reliability composite of 0.949 > 0.600, Accountants Role variable

own mark reliability composite of $0.848 > 0.600$, variable Society 5.0 has composite reliability 0.943, > 0.600 . Based on testing it can be concluded that all research variables stated reliable.

Discriminant Validity

Cross-loading values are useful to know if the construct owns adequate discriminant which is a reluctant method to compare loading value in the intended construct must bigger compared to other values. By standards value for each construct must be bigger than 0.6. based on Table 3 the value of cross-loading on each construct's own mark is more than 0.6. it shows that manifest variables in this study have appropriate explain variable latent and prove that all items are valid.

Table 2. Cross loading

	Industry 4.0	Accountants Role	Society 5.0	X*Z
Industry 4.0 * Society 5.0	-0.159	-0.221	-0.200	1,000
X.1	0.735	0.729	0.732	-0.175
X.10	0.771	0.770	0.779	-0.148
X.11	0.702	0.700	0.706	-0.104
X.12	0,760	0,774	0,764	-0,332
X.13	0,715	0,693	0,698	0,070
X.14	0,730	0,730	0,735	-0,148
X.15	0,794	0,795	0,807	-0,129
X.16	0,756	0,767	0,756	-0,089
X.17	0,715	0,706	0,715	-0,016
X.2	0,733	0,720	0,728	-0,125
X.3	0,715	0,695	0,700	0,039
X.4	0,730	0,712	0,680	-0,005
X.5	0,712	0,686	0,660	0,087
X.6	0,746	0,742	0,738	-0,222
X.7	0,758	0,764	0,775	-0,283
X.8	0,764	0,764	0,762	-0,180
X.9	0,769	0,783	0,785	-0,179
Y.1	0.697	0.715	0.710	-0.365
Y.10	0.771	0.770	0.779	-0.148
Y.11	0.702	0.700	0.706	-0.104
Y.12	0.760	0.774	0.764	-0.332
Y.13	0.714	0.706	0.706	-0.093
Y.14	0.730	0.730	0.735	-0.148
Y.15	0.794	0.795	0.807	-0.129
Y.16	0.756	0.767	0.756	-0.089
Y.17	0.715	0.706	0.715	-0.016
Y.2	0.715	0.713	0.713	-0.228
Y.3	0.697	0.707	0.683	-0.083
Y.4	0.710	0.722	0.672	-0.119
Y.5	0.697	0.706	0.662	-0.034
Y.6	0.747	0.744	0.738	-0.227
Y.7	0.758	0.764	0.775	-0.283

Y.8	0.764	0.764	0.762	-0.180
Y.9	0.769	0.783	0.785	-0.179
Z.1	0.730	0.724	0.730	-0.168
Z.10	0,771	0,770	0,779	-0,148
Z.11	0,702	0,700	0,706	-0,104
Z.12	0,760	0,774	0,764	-0,332
Z.13	0,723	0,701	0,714	0,060
Z.14	0,730	0,730	0,735	-0,148
Z.15	0,794	0,795	0,807	-0,129
Z.16	0,756	0,767	0,756	-0,089
Z.17	0,705	0,701	0,714	-0,061
Z.2	0,712	0,699	0,712	-0,136
Z.3	0,701	0,690	0,704	-0,076
Z.6	0,749	0,742	0,741	-0,215
Z.7	0,758	0,764	0,775	-0,283
Z.8	0,764	0,764	0,762	-0,180
Z. 9	0.752	0.766	0.771	-0.196

Source: *Data Processing (2023)*

Based on the table above, obtained results that all question items were valid because Cross loading value above 0.6

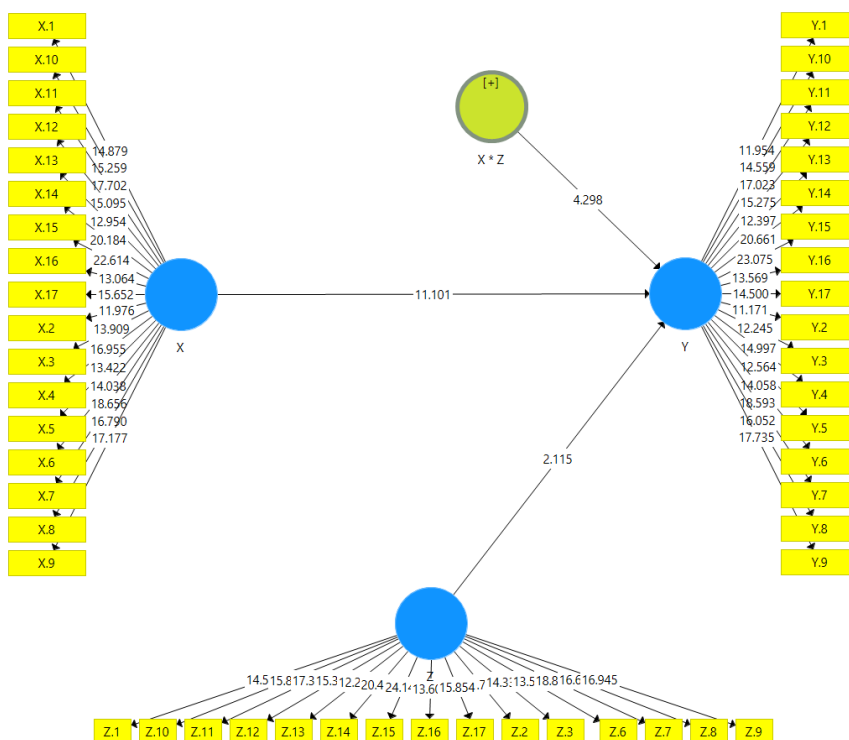


Figure 1. Hypothesis testing

Hypothesis test

Direct Effect Testing

Testing hypothesis influence direct aims to prove hypothesis influence something variable to other variables respectively directly (without intermediary). If value coefficient track marked positive, it shows that enhancement mark One variable followed by an increase mark variable other. If value coefficient track marked negative, it shows that enhancement One variable followed by a decline mark variable other. (Hair, Hult, Ringle, & Sarstedt, 2014; Garson, 2016).

If value probability (P-Value) < Alpha (0.05) then Ho is rejected (influence something variable to other variables significant). If value probability (P-Value) > Alpha (0.05) then Ho is rejected (influence something variable to other variables are not significant) (Hair, Hult, Ringle, & Sarstedt, 2014; Garson, 2016).

Table 3. The direct effect hypothesis

	Original Sample (O)	Sample Means (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Industry 4.0 -> Accountants Role	0.825	0.806	0.074	11.101	0.000
Society 5.0 -> Accountants Role	0.162	0.181	0.076	2.115	0.035
X * Z -> Accountants Role	-0.043	-0.039	0.010	4,298	0,000

Source: Data Processing (2023)

Based on the table above obtained that influence direct variable X (Industry 4.0) to variable Y (Accountants Role) has a coefficient track of 0.825 (positive), then enhancement of Industry 4.0 variable values will increase Accountants Role Variable with P-Values of $0.000 < 0.05$. It can be concluded that Industry 4.0 is influential in a manner positive to the role of Accountants

Furthermore, Society 5.0 is a moderating variable that can weaken the connection between Industry 4.0 towards role Accountants with coefficients track of -0.043 (negative), with P Values of $0.000 < 0.05$. so it can be concluded that the relationship between Industry 4.0 can weaken by Variable society 5.0.

According to the Accountants Bank of North Sumatra namely Muhammad Thamsir Sitepu (2023) "Change accountancy manually going digital is great. If change task power is there is no Accountants change Because the Accountant when being an auditor still does checking according to PSAK. The challenge power Accountants is to learn software and must follow current development technology that happened. "

Technology integration into the industrial world owns Lots of impact positive that can be felt Because increases performance and enable implementation of various activities quickly, precisely, and accurately. On the other hand, a lot feel party threatened by the presence of technology capable of sophisticated Work in a manner automatic without help from humans. A work that feels threatened by progress and development technology is Accountants.

There is a 95% chance of professional accountancy will be replaced by robots. The magnitude of this percentage is because fast development of robotics and data analysis (*Big Data*) doing work base Accountants (recording transactions, processing transactions, sorting transactions). Professional Accountants the more develop in line with developments experiencing technological change big. Accountants no longer work in data processing, however, more will become a consultant for the company. it happens because data processing has been obtained in a manner of automatic use of technology like device soft like *FinTech*. The impact from this phenomenon will impact the improvement amount of information and quality of the information generated in the financial statements.

According to KAP auditor Gideon Adi & Partners namely Tengku Hasan Basri SE, M.Sc (2023) said that "Application accounting is necessary studied and continuously updated by the

workforce Accountants because it is very important. Especially about Accountants who are required to be skilled in technology specifically about report his finances. The challenge in *the Society 5.0* era is the progress economy and technology is very important for power Accountants so that required to follow development technology and learn about it. “

Accountants must capable anticipate policy companies in competition. Globally, role Accountants are not only providers of accounting data, but also providers information for takers decision. Accountants play role support and provide analysis because consequence from governance policy a company that aims to be seen clear when the auditor performs a financial and management audit not quite enough answer company to investors, in particular given changes in the environment business.

In the *Industry 4.0* era, Accountants experience changes big at recording, data processing, and data reporting. Accountants used to do this process manually but now do it with a computer and accounting software latest. Where this makes it easy for we as Accountants in terms of processing accounting data, but also will result in a reduced need for power Accountants because more data processing concisely because assisted by the *software*.

Coefficient of Determination (R Square)

Coefficient determination (R Square) aims to evaluate the accuracy prediction of something variable. In other words, to evaluate How variation mark variable dependent influenced by variations mark variable independent in the path model. (Hair, Hult, Ringle, & Sarstedt, 2014; Garson, 2016). An R Square value of 0.75 indicates a strong PLS model strong, an R Square of 0.50 indicates a moderate PLS model and an R Square value of 0.25 indicates a weak PLS model (Ghozali, 2016).

Table 4. Coefficient of determination

	R Square	R Square Adjusted
Accountant role	0,993	0,993

Source: *Data Processing (2023)*

From the table above it can be seen that Industry 4.0 has a strong role in the Accountant Role variable, amounting to 99.3%, the remaining 0.7% is influenced by other variables.

Based on the results study form questionnaire study conclude Accountants has experienced change big in the industry 40 era in the field of technology in particular, a lot of the initial things done manually by humans are now replaced by machines and software, such as *E-Parking*, accounting software, and even *tellers* will quick replace by smart robots in the next era. It can become impact positively or negatively for Accountants, as We know that not all element public specifically Accountants understand and follow the development happening technology.

The impact positive of integration technology is making it easy to work with Accountants, wherein the work there is nothing else to do because manually all things are already done with the tool electronics, *software*, and also machines. Whereas impact negative from the integration of this technology is will decrease request will power Accountants in the world of work, as We know power Work Accountants covers all line of business in the world. Nothing unnecessary business power Accountants started from line government, private, etc. Competition in the world of work will the more difficult because the first only competition between powerful Accountants just now Accountants must compete with technology as well.

A company small usually need 2-3 powerful Accountants, however, if anticipated technology can do activity base Accountants are perfect so the company earlier only need professional Accountants in the field of accounting and technology only as supervisor machine and *software*.

Development technology in the era of *society 5.0* later will give challenge alone for a professional Accountants. Existence professional Accountants will be at stake to be able to still survive in this era. Endure or *nope* existence professional Accountants, is located in the hands of the perpetrator's profession itself. There are 5 attempts that can be carried out in facing the era of *society 5.0*: Do invest in the development of *digital skills*, Apply *prototype* technology new, meanwhile *learn by doing*, based education *international certification*, responsive to change industry, business, and development technology, Curriculum and learning-based *human-digital skills* (for institutions of education).

The Accountants must capably anticipate competition in the world of work, roles Accountants are no longer only providers of accounting data, but also act as providers of information for takers' decisions. Accountants' role as support and provide analysis because the consequence wisdom management company will seen evident at the time the public auditor performs financial and management audits as a form of accountability company to the investors.

Accountants as *support specialists* also will be required to have the ability good and capable communicate and understand all aspects of the function company. An Accountants will Act more as an analyst financing than an accounting data provider. Therefore, apart from being a function of financing, Accountants also have to control function marketing, so can detect a market situation in the global competition in the future. So that in the future Accountants must think in a manner strategic. The future Accountants must own adequate knowledge, qualification, ability, capable growth, and always innovate with technology. Collaboration between Accountants and technology is a factor key to creating mark-plus Accountants to compete with robots and AI in the *Society 5.0* era.

An Accountants will do a collaboration with technologists, this collaboration is related to the use of traditional data that is owned company and developed by Accountants using data processing and peaks on giving solutions through innovation accounting to facilitate policy company that will take. This way you can follow development technology information in this digital age. An Accountants must adapt to technology to augment value (value) because the more lead to digital services as well capable equip yourself with various science.

CONCLUSION

Based on the results of the research that has been done, it can be concluded that Industry 4.0 has a direct effect on the Role of Millennial Accountants significantly. And Society 5.0 is a moderating variable that can weaken the relationship between Industry 4.0 and Millennial Accountants. The main contribution of this research is to illustrate to millennial accountants that in the future the position of accountants will be replaced if they do not have a strategy, so that the position of accountants does not weaken in the era of *society 5.0*. Strategies that can be carried out such as ensuring certification, making goal orientation, making time management, always up to date, and using software to maximize performance. Invest in developing digital skills, apply prototypes of new technologies while learning them, participate in internationally based education, respond to changes in the business and technology industries. Technology will not eliminate the accounting profession, but will reshape it with new and challenging responsibilities. For this reason, millennial accountants must be able to improve and change paradigms in preparing for careers in the accounting field. The limitations in this study are the number of respondents who do not exceed half of the accountant population in Medan City and the respondents are not accountants in the government. It is hoped that future researchers can correct the shortcomings of this research by trying to make or find new findings to perfect this research. For this reason, the addition of new variables needs to be reviewed in examining the role of millennial accountants

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