Using the Biometric System in the Implementation of Digitalization in Pension Payment Services

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Keywords: Biometric System, Digitalization, Pension Fund Payment Service, #ICIB.

Abstract: PT TASPEN (Persero) as a state-owned enterprise which is regulated as a pension fund management institution for all government employees consisting of Civil Servant, Head of Government, up to Board Member with a total number of participants reaches 6.7 million participants consisting of 4, 2 million active participants and 2.5 million retired participants. As government agencies that have to serve the community and have an obligation to pay dividends to the SOE ministries, the effectiveness of services is the main key to make the management of the company profitable for the country. From the main key of the service, then TASPEN makes an innovation by using the biometric system which used on pattern recognition. To obtain the data, the authors make observations, interviews, and studies of supporting documents concerning TASPEN in realizing the digitalization of pension payments that the process has been initiated since 2014. Data processing techniques used to perform data reduction because the data obtained from interviews, observation, and supporting documents are quite complex. The findings in this study are that technology can be understood in all generations (baby boomers generations included), the level of customer satisfaction remains high, communication channels are diverse, and the process of Digitalization gets a psychological challenge.

1 INTRODUCTION

The Pension Fund Program is fund management that promises periodic payments to participants at the time of retirement or retirement. Payments of pension funds are paid to pensioners (either participant or family borne) through a paid partner that may be a Bank or post. Payments of pension funds will cease when penalties are subjected to several incidents such as death, re-active work, or conduct activities that violate the agreement between the insured and the insurer (the body that receives pension risk). Therefore, the payment of pension funds requires periodic authentication to ensure that the recipient of the pension fund is eligible.

PT Taspen (Persero) as a state-owned enterprise that is regulated as a pension fund management body for all State Civil Apparatus consisting of Civil Servants, Head of Government, up to Board Members with a total of 6.7 million participants consisting of 4, 2 million active participants and 2.5 million retired participants. As government agencies that have to serve the community and have an obligation to pay

dividends to the SOE ministries, the effectiveness of services is key to making the management of the company profitable for the country. Noted, PT Taspen (Persero) succeeded in becoming an SOE that always generates a profit since 2014 (Kulsim, 2018). Some of the breakthroughs made by PT Taspen (Persero) become a special strategy in giving maximal servants to the participants including automatic claims service that makes the participants do not need to come to the Office of PT Taspen (Persero) as insurer or partner to pay periodic authentication to ensure the right recipient under the condition.

Periodic authentication is performed by the insurer or insurer of the retired face-to-face way by matching the registration number, photo, or signature accordingly and Identity Card. Participants need to take their pension funds regularly in partnership and the funds received can be either physical in-kind or sent to the account desired by the participants and the paying partners.

In its development, the digitalization process towards pension payments began to grow by maximizing the existing technology. Now, the insurer

and the paying partner do not need to face to face with the participants. Authentication can be done through biometric mobile devices by voice recognition, fingerprint, and face recognition. Any form of biometric technology used is a manifestation of the proof of the life process (proof of the recipient of the pension is still alive). The pension fund will then automatically log into the participant's account without requiring attendance to the paying partner. In the future, both the paying partner and the insurer's office will have minimal claims for pension payments. To achieve this, it needs an infrastructure in the process of digitizing the retirement services that serves as the authentication and verification of data, data recording devices, applications, networks and biometric licenses as a reliable solution for Information & Communication Technology (ICT) for the authentication process in the payment process retirement can run faster and more accurately.

The implementation of the digitization of pension payment services provides more valid retirement data and makes it easier for all retirees to perform an authentication process. The application of digitizing pension payments is considered important because of the complaints of retirees who often find it difficult to introduce themselves to paying partners and become commonplace because retired people are usually very old (Iqbal in Setiawan, 2018). For retirees who cannot take pension funds either due to physical or health impairments, it can be represented by a power of attorney. From the side of paying partners and pension fund management agencies, if the handling of pension payments remains done manually, eating will be a difficult process of arranging and reporting data of participants. This has caused a lot of fraud (fraud) in which pension funds are used by unauthorized people. Changes in communication between insurers and participants from face-to-face communication to mediated-communication to ensure valid participant data gives rise to a number of advantages and disadvantages that should be examined more deeply. The advantages that occurred visible from the effectiveness of communication patterns of time and place on the process of periodic pension payments while the lack intensity of interaction between the two parties that can lead to decreased customer attachment to pension fund management company. The author believes that opportunities in the utilization of technology in the communications industry that occurs in the business of pension funds can continue to grow so that the effectiveness of communication patterns can be in line with the goal of organizing a business pension fund without reducing the emotional bond between

pension fund management companies with participants.

From the legal point of view, the digitization of pension payments has been guarded by the Guard, Protection, Government and Development Team of Kejati DKI (TP4D) for mechanisms that comply with the legal rules concerning procurement development and implementation, digitizing pension payment services. The trick is to harmonize the rule of law between the internal TOR of PT Taspen with other legal rules including the rules concerning the Ministry of SOEs and related to the budget mechanism and its loading (Siagian, 2017).

The concept of digitizing the pension fund service is technically adapting across the communication sciences ie the field of information technology. This digitalization is an integration of audio concepts in which this digitalization system to recognize the identity of the retiree uses sound sensors, then audio-visual concepts are also used as a sensor system, there is the concept of Data-Distribution-Network or better known as Big Data, where the whole data on pensioners is in the Big Data this later data will be used to optimize the digitization of this pension fund payment service.

The existence of new technology that aims to provide convenience for retirees in terms of mobility, of course, has decreased, then PT. Taspen holds this digitization of course after passing through a series of processes without exception judging from the side of ethics and regulation. Referring to the ethical understanding by Paul & Elder that ethics is a set of concepts and guiding principles in deciding which behaviors can be helpful or harmful to living beings (2006), this digitization is in a position to make it easier for living things. In terms of regulation, digitization conducted by PT. Taspen has been running as it should and has been legally guarded.

Based on the background of the problem described above, the authors have the assumption that the development of information and communication technology in the face-to-face service industry, especially in the service industry of pension fund payments will have an impact on decreasing the participant's engagement to the pension fund management agency due to the reduced intensity. Although current communication patterns built between the two do not require high intimacy, with face-to-face communication that has been done can produce valuable information. The insurer will know the personal difficulties experienced by retirees more deeply, not just formal interaction to pay the rights of pensioners.

The ease of being built through communication patterns assisted by technology will lead to difficulties because mediated communication requires skills in using media for both parties. Feedback received will experience delayed) because the process of sending messages in the authentication process requires the process.

Therefore, the purpose of this paper is to integrate between the assumptions, propositions, and the results of the discussion on a phenomenon that exists in the service of pension fund payments that also develop with the implementation of strategic management in the field of information and communication technology.

2 LITERATURE REVIEW

Pension fund

According to Wild, Subramanyam, and Halsey (in Bachtiar: 2005: 177): The pension plan is the employer's promise to provide employee pension benefits, and the agreement involves three parties: the employer, who contributes to the pension plan; workers receiving rewards; and pension funds. A pension fund is separated from the employer and administered by the trustee. Meanwhile, according to Kieso, Weygandt, and Warfield (in Wibowo: 2002: 147), "The pension plan is an agreement that provides that employers or employers provide benefits to employees after they retire on services they give while still working ".

Technology Determination Theory

In the Technology Determination Theory, there are three forms of the emergence of this theory. Three forms are:
1. Normative
2. Logically important
3. Unintentional Consequences

In a journal by Paul S. Adler, The International of Encyclopedia of Organization Studies, it is affirmed that Technology determinism is divided into several levels of analysis. At the broadest level, Technology Determination has informed many analyzes of changes in socio-economic configurations: the transition from feudalism to capitalism, changing the structure of work and skills of the workforce in the 20th century, the post-industrial emergence in post-World War II era, the subsequent emergence of "information society," "post-Fordism," and globalization. For some, technological progress represents a gradual emancipation promise of mankind from unnecessary burdens of illness and labor. For others, this same path represents the loss of our humanity, ensnares us in a more complex, alienating, and dangerous technological web.

Biometrics

Basically, the biometric system is a pattern recognition system. There are four basic components in this biometric system as described in the book "Biometrics: Concepts, Methodologies, Tools, and Applications, namely:
1. Sensors: The process of procuring data (or sensors) that capture images and/or videos and individuals who register to a biometric system or use it for verification/identification purposes
2. Features: The creation of templates that develop biometric template patterns from input data using machine learning, computer vision, and pattern recognition techniques
3. Database System: Repository of registered biometric user patterns
4. Matcher: Compare biometric patterns from the user's "live" image to each biometric pattern that is stored in the database system module. Based on matching results, then made a decision with respect to the identity of the stored user then displayed on the system.

The biometric identity authentication system is based on a person's biological characteristics, such as face, voice, fingerprint, iris, gait, hand geometry or signature. Identity authentication using faces or voice information is a research area where scientists are currently working very actively to develop technology using this biometric system (Jadhav, 2006).

An identity authentication system must relate to two types of events: whether the person claiming the given identity is referred to as the client or if it is not proven to have a relationship it can be said that the person is not a person entitled to receive. Moreover, the system may generally take one decision: accept the client or reject it and decide he/she is a suspect alien. Biometrics provides two functions of identification and authentication or verification.

3 RESEARCH METHODS

Data Collection Technique

To obtain the data, the authors make observations, interviews, and studies of supporting documents concerning PT Taspen (Persero) in realizing the digitalization of pension payments that the process has been initiated since 2014. Observations made

directly by the author of the work process, symptoms, and behavior to record the various phenomena that occur Observation Techniques / Observations, according to Sutrisno Hadi in Sugiyono (2013), is a complex process, two of which are the most important processes of observation and memory. To strengthen the results of the author's observation, the interviews were conducted on the parties who have authority over the pension payment service that is the Main Manager of Services and Marketing Division as the head of the work unit and Functional Marketing as an expert staff in service at PT Taspen (Persero). The writer's interview is appropriate to deepen the material because according to Esterberg in Sugiyono (2013), through interviews can be constructed meaning in a certain topic which is the result of the exchange of information and ideas. Subsequent supporting data of the authors get based on the results of annual management reports from 2015 to 2017. According to Pivac (2017), the annual report can provide a fair review of the company's development in a business and the position of the company.

Data Processing Technique
Data processing techniques used to perform data reduction because the data obtained from interviews are not structured observes, and supporting documents are quite complex. In the process of summarizing, choosing the things that are considered important, as well as looking for patterns according to the theme that the author lifts, it takes a coding process (Creswell, 2014) is a process where researchers search for keywords from the description interview that can answer the formulation of the problem. The coding type is open coding because the researcher studies the text (interview transcript, field note, document) for information categorized as prominent by the researcher (Creswell, 2014). Furthermore, these prominent data writers make reference to being analyzed more in-depth. According to Ahmadi (2016), the analysis includes organizing data, dividing data into manageable units, finding patterns, and finding what is important, which can be learned, and deciding what researchers will report in this case the researchers focus on the process of digitizing pension payments from a communication point of view.

4 FINDINGS

Technology Can be Understood In All Generations
The use of information and communication technologies has accelerated the social networking process for all generations, including elderly genders that are the main targets in digitizing pension payments. Enthusiastic of the elderly in using information and communication technology is very big seen from the number of participants who attend to follow the enrollment of the process of recording biometric data which will be used as the basis receipt of payment pension. The online authentication process can be done through biometric-based smartphones such as fingerprint, face recognition, and voice recognition. The pension payments that last several years take about three hours by queue, according to Iqbal in Riyandi (2018), now 3 minutes. The management believes that technology is beneficial to all people and the age of retirees is not a barrier to information and communication technology can be maximized. The process of enrollment or biometric data recording is conducted from May to October 2018. The enthusiasm for recording is highly visible from the number of participants who are recording at the Main Branch Office of Jakarta PT Taspen (Persero). Based on the observation of the author, the number of participants who attend always meets the waiting room since early May. There is a concern for pensioners that their rights cannot be paid if they have not yet done biometric recording especially on the payment of Pension 13 and Hari Raya allowance (THR) to be paid in 2018. This is supported by the press release spread by the company on 28 May 2018, it is stated that the biometric data recording activity does not affect the payment of Pension 13 and THR for pensioners because it is not mentioned in the technical guidance of the implementation of the grant referred to the Government Regulation No. 18 of 2018 on the Provision of Salaries, Pensions or Third Allowance of Civil Servants, Soldiers The Indonesian National Armed Forces, Members of the Indonesian National Police, State Officials and Pensioners or Benefits. The enrollment process can be done in all the paid Partners who have the means adequate. In accordance with the statement a Functional Marketing as follows: "Implementation of enrollment may be performed in all paying partners where the relevant pensioner is registered as long as the intended paying office already has sufficient means to enroll"

Biometric recording activities for retirees reaching 2 million participants take about six to eight months and use approximately 10 thousand socializing workers. As stated by Faisal Rahman, Director of Planning, Business Development and Information Technology, "Taspen is working with Dukcapil (Directorate General of Population and

Civil Registration) to enroll 2, 5 million retired participants". This shows that in maximizing information and communication technology, it requires large data processing and involves various parties. Dukcapil plays a major role in the management of participant's retirement data because it is fully responsible for all the formulation and implementation of policies in the field of population and civil registration in accordance with the provisions of the legislation.

The Level of Customer Satisfaction Remains High
The level of customer satisfaction on the services of PT Taspen (Persero) as the agency of pension fund manager is quite high in the recent period. From the last two years management report, the corporate satisfaction index in 2016 reached 96.6% for pension participants and in 2015 it reached 92.9%. In that year, the use of technology for digitizing pension payments through biometric data does not yet exist. The use of the only technology that has been used is automatic claim payments in which participants do not need to collect all data requirements to file a pension claim. The management body will utilize Big Data which is already a part of the cooperation between PT Taspen (Persero) with Dukcapil.

Through integrated data, the automated claims service system ensures that the pensioner will immediately get the right as a pensioner upon entering full time. Participants only need to fill out a completed payment receipt from before the pension limit and are payable immediately upon maturity. The automated Claims Service program can be said to be the embryo of digitizing pension payments that can facilitate pensioners.

In terms of communication, the use of Big Data is a profitable business because abundant data can be obtained in real-time, much information can be obtained and used. The results of data processing can facilitate various circles, including the elderly who are not too closely related to technological developments.

Through the use of big data in cooperation with Dukcapil, payment management companies such as PT Taspen (Persero) will make the data accuracy and completion of claims of participants faster and easier validation of claims process. Through Electronic Identity Card (e-ID card) data integrated with Taspen participant number, registration of members of the Civil State Apparatus will be more effective. Management believes that through the use of data and information technology and communications, it will be able to improve service to participants who will be

seen on the level of satisfaction of participants in the next year.

The Channels of Communication are Diverse
In doing the service, in essence, technological progress does not necessarily immediately kills the existing communication channel before. Through digitizing pension payments, branch offices are being added to meet the needs of participants all over Indonesia. Finally, at the beginning of 2018, it has inaugurated two branch offices for Bone (South Sulawesi) and Pamekasan (East Java). Total branch offices of PT Taspen (Persero) reached 57 scattered in all provinces in Indonesia. In fact, the spirit of digitalization of pension payments has been echoed from mid-2017 which aims to not many participants who must come to the Branch Office of PT Taspen (Persero) or to the Partner Office Pay. It aims to have participants of various options to authenticate so that the payment of pensions can be in accordance with applicable provisions. Iqbal Latanro (in October 2018) as President Director emphasized that innovation continues to bring closer service so that participants get faster, easier, safer, more comfortable and maximal service. As a service provider, organizations can not force all parties to simultaneously shifting into digitizing pension payments. For participants who do not have the skills in using existing technology, especially in authentication of pension payments through biometry, it is also necessary face-to-face service to answer those needs so expanding the network by building a new Branch Office is one of the right ways.

The Process of Digitalization Gets a Psychological Challenge
Information and communication technology is essentially a basic human need for the process of managing and obtaining information in a context that will benefit the whole society. But in practice in the industry of management and payment of pension funds, there is a psychological aspect of the challenge that is the need of retirees to interact. In fact, the pensioners are often queued since dawn on the day of pension payments. This then motivates pension fund managers to provide a payment pattern that does not require a queuing system as it takes time and energy for retirees who are not young anymore. The queue is not a problem as retirees flock to paying partners with a mission to meet old friends and wait for pension money. According to Ali, a Retired teacher in 2000 in Rahman (2016), "Not just want to take pension money, but meet friends become one thing routine every month,".

Culture is inherent in the community of pensioners, of course, be a challenge for pension fund management agencies such as PT Taspen (Persero). Although technology is needed to make a process effective, it will still face many challenges in its implementation process.

5 RESULT AND DISCUSSION

We Technological sophistication is not just based on a single discipline. In the subject of today's authors, the digitization of pension payments proves that clumps of communication fields also need to collaborate with other clumps of fields. Technology system used by PT. Taspen (Persero) is a system that uses biometric concepts that we look for journals about biometrics (Fingerprint, Face recognition, and voice recognition). What is the same effect of communication

The use of information and communication technologies has accelerated the social networking process for all generations, including elderly genders that are the main target in digitizing pension payments. Kolehmainen (2016) revealed that the development of information and communication technology had increased the knowledge of the older generation and its skills in accessing information. Information technology is proven to improve the welfare of the elderly as part of a holistic way of self-preservation.

The technology included in Kolehmainen also includes virtual-tools, robots, games, and remote-operated monitoring systems which show that all of these communications technologies play a major role in improving the welfare of the elderly as they successfully create social networks and communication portals so that stimulating the thought process that ultimately pushes itself to dependency.

According to Reardon (2010), many people ignore the role of technology in the elderly generation because of the adaptability to technology that is not as fast as the younger generation when it actually distances the elderly's chance to maintain and improve their physical, mental, and emotional well-being. So to ensure the elderly get the same benefits of technological advances, it takes the structure of the design and management of personal skills according to the criteria of the elderly generation. Kolehmainen (2016) also explained that in the future technology is needed to be built on the character of the elderly because the evidence of his research shows that information and communication technology is used to

create inter-generational communication both personally and publicly.

The author believes that information and communication technology can play a much bigger role than simply making the communication process more effective in terms of the distribution of pension funds. The ease was given so as not to queue and travel to the partner pay as well as Branch Office PT Taspen (Persero) make the life of the elderly better. Lancu and Lancu's (2017) study revealed that information and communication technology indirectly increases life expectancy when used appropriately. As life expectancy increases, the need will also increase realistically and force the industry to compete in providing better products/services to offer. Knowing how the elderly generation understands technology and understanding the profile of the elderly generation becomes an important aspect and needs to be taken into account by the business industry, government, to stakeholders such as social service companies. Lancu and Lancu (2017) add that the elder generation is caught as a sensitive community and is often characterized as a lowly, demanding group, and has plenty of free time. But in reality, the elderly actually require integration in social interaction.

The implementation of digitizing pension payments by maximizing biometric data recording has addressed the need for the elderly generation of technology. However, face-to-face communication is still needed by pensioners as a society needs. Through the integration of the use of information and communication technology, the elderly generation can be more independent and participate in social activities.

The right technology for the elderly is the Assistive Technology defined by Chernbumroong (2010) personalizable tools that can maintain or enhance a person's capacity such as wireless communication systems, mobile data collection, and how to control the environment to maintain physical, cognitive and active involvement. The digitalization technology of pension payments can be said precisely because it minimizes the dangerous work for pensioners. This is in line with what Gamberini stated in Chernbumroong (2010) which explains that to unify technology and the elderly generation needs to avoid excessive physical contact and make connections between old-age users and pension fund managers. Existing communication patterns tend to be transactional where both parties have their own goals to get their rights and obligations, so that when the channel changes it will not have a significant effect.

Evident from the assessment of the level of customer satisfaction within the last two years when digital services through big data began to be done, the result of customer satisfaction remains high and considered very satisfactory for participants. But with the development of information and communication technology that resulted in the absence of the participants coming directly to the paying partners to take pension funds, need to be developed more deeply so as to meet also the social needs of the pensioners to interact with others. Nedopil et al (2017) argue that parents will be more motivated to use technology especially in certain situations such as when the technology is compatible with their routines and when they are able to directly assess that the technology is greater than the effort while learning to use it. When it meets both requirements, then the number of users of the elderly generation to utilize information and communication technology will continue to increase.

6 CONCLUSIONS

This study concludes that technology can be used in all circles including the elderly generation especially in the financial business such as pension payments. The technology used needs to have several conditions such as avoiding pressure for the user, facilitating communication or authentication process, and meeting the integration needs of social interaction owned by the older generation.

Minimal service of face-to-face communication does not have an impact on the sense of engagement because the communication process is built only to the extent of transactional communication whereby participants make sure to get pension funds and pension fund managers to perform their duties through the authentication process. In order to know the difficulties and complaints of the participants, the pension fund management agency needs to regularly conduct customer satisfaction assessments every year.

As a result, digitizing pension payments can make participants satisfied with the services provided. The elder generation is essentially a sensitive community of technology and wants to increase its knowledge and skills in accessing information and communication technology because it can increase independence and communication with its environment.

Recommendation

Based on the conclusions presented by the author, information and communication technology can be

utilized for authentication needs through biometrics consisting of voice recognition, fingerprint, and face recognition. The pattern of communication that turns into mediated communication is not an obstacle when the communication meets the needs of the parties concerned. This form of information and communication technology needs to be supported by good data management (big data) with the right human resource skill. The use of biometric data can be done in various industries that require personal authentication in a fast, accurate and valid manner with sufficient intensity of interaction so as to support the satisfaction and needs of the use of information and communication technology.

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APPENDIX

Annual Report PT Taspen (Persero) 2016.
Annual Report PT Taspen (Persero) 2017.
Transcript of Interview with Functional Marketing of PT TASPEN (Persero).
Transcript of Interview with Main Manager of PT TASPEN (Persero) Service and Marketing Division.