The Church's Readiness for the Industrial Revolution 4.0

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Abstract— **The church is a community of people who believe in Jesus Christ, and this community is inextricably linked to a rapidly changing world civilization. The transition towards a new era known as Industrial Revolution 4.0 is taking place and must be properly addressed. The church cannot remain unaffected in the face of this new era. By using a simple survey, it can be seen the readiness of the church to face the Industrial Revolution 4.0. The study's findings reveal that the church needs to improve its resources in order to take advantage of opportunities and overcome problems, so that they do not die due to a lack of foresight. Research Contribution: This research shows that the church is lagging behind in terms of technology, especially in the Industrial Revolution 4.0. Thus, the church needs to improve so that it does not become a foreign institution in the future.**

Keywords—church; church leader; church readiness; Industrial Revolution 4.0; internet

I. INTRODUCTION

The true church is made up of people who believe in Jesus Christ as their Lord and Savior, a unity of people, not buildings [1]. As a community, the church has encountered a range of challenges. Since its start on Pentecost, ten days after Jesus' ascension to heaven, the church has seen significant shifts in circumstances. The church enjoyed a pleasant family time in Jerusalem as a community of people who believed in Jesus Christ [2][3], but ended up being persecuted and scattered to various cities [4]. Paul's ministry took the church to a new level of mission and expansion [5], but it also experienced persecution [4].

When Konstantin issued the Edict of Milano, enormous changes happened in society; a church that had previously been oppressed became a preferred organization [6]. It is obvious from different historical events that the church must exist despite changing societal circumstances. Even in the face of doubt, faith should not be distorted [7].

It is realized that changing times always have the potential to change values, which in turn lead to changes in lifestyle, perspective and decision-making processes. This idea was confirmed by Schwab [8]. There is no denying that the industrial revolution had an impact on society. The impact of the Industrial Revolution 4.0 is the most tangible. People are being drawn into the new world, which is based on the internet and is no longer distinct from people's lives. It's as though the physical and virtual worlds have fused into one.

Each of the previous revolutions is used as a stepping stone for the development of the Industrial Revolution 4.0, which stresses characteristics of digital technology. Industry 4.0 is defined as a real-time, intelligent, and digital network for equipment, objects, and, most importantly, people in the context of industrial management [9], allowing for increased digitalization of the entire value chain as well as real-time data exchange between people, objects, and systems [10]. The Industrial Revolution 4.0 is often referred to as the era of digital transformation. It began in 2011 which was introduced by the state in Germany [11] and then spread throughout the European continent and throughout the world, including in Indonesia. Industry 4.0 is a new phase of the Industrial

Revolution that emphasizes interconnectivity, automation, machine learning, and real-time data. Klaus Schwab, the executive chairman of the World Economic Forum in Geneva, created the term " Fourth Industrial Revolution." At a meeting in Davos in 2016, he presented it in his book "Fourth Industrial Revolution." [8]

Indeed, if the church's existence is viewed as a gift from God, divine intervention is unmistakably present in the church at all times. However, the church must not remain mute or apathetic in the face of societal changes. If the church does not take the appropriate steps, the church will become something foreign to society. There have previously been papers that provide a better understanding of the integration of technological (embodiment), psychological (presence), and behavioral (interactivity) perspectives [12]. The purpose of this paper is to propose the incorporation of technology into ecclesiastical ministry. This study seeks to find out whether the church as a corporation is ready to face the Industrial Revolution 4.0.

II. METHOD

This is a descriptive study using a survey [13]. The researchers began by seeking for material on a variety of topics connected to the Industrial Revolution 4.0. Then a random poll of 286 respondents from various cities in Indonesia was undertaken. This survey gathered information on respondents' backgrounds as well as their abilities to use various internet services. The relationship between one indicator and another is examined by classifying them according to particular backgrounds. Based on data analysis, it can be seen the readiness of the church in the Industrial Revolution 4.0.

III. FINDINGS AND DISCUSSION

The tools and technological advances developed by Industry 4.0 will play an important role in improving the quality of life in society, allowing for happier, more motivated, and satisfied people with more time for leisure [14]. At the beginning of the industrial revolution 4.0, there were already churches that responded by providing media services [15].

A. *Various internet services in the Industrial Revolution 4.0*

The Internet of Things (IoT) is a system that makes it simple for industrial actors to connect with digital devices, resulting in mutual interconnections [16]. The capacity of IoT to connect actual and virtual items is a game-changer in the Industrial Revolution 4.0 period, and this system is extremely useful for data transfer across network systems [17]. Because it serves as a critical source of network infrastructure, cloud computing technology, also known as cloud computing, plays a critical role in the long-term viability of the Industrial Revolution 4.0. Cloud computing management is a cloud computing technology system that allows users to access data from any location [18]. This system keeps data in the cloud, such as icould and Google Drive. As a bridge between the

actual and virtual worlds, cloud computing is a key component of the internet of things [12].

The supporting aspects of the Internet of Things, for starters, Big Data is data with a huge volume, because a vast collection of data will be examined and processed for various reasons, such as making their own decisions, making predictions, and so on. There are three types of data sources in Big Data: 1) Data having a huge volume is referred to as volume. 2) Velocity refers to data that moves at a high rate. 3) Variability refers to a wide range of data types [11].

It is possible to construct or open new networks in the internet of things, as well as IoT specific networks. This network is no longer connected to the primary network [17]. The network does not need to be enormous; in fact, it can be rather modest. The Internet of Things (IoT) has the potential to alter the system's small network. The size of the network on the Internet of Things can be modified based on consumption [17].

Along with the internet of things and social media, e-commerce or online trading has grown in the era of the industrial revolution 4.0. E-commerce, often known as an online store, is a convenient way to conduct business. Delivery services, discounts, and product reviews are all available through on-line shop. This is what makes e-commerce easier with e-commerce as trade in a simple and practical manner, as well as payment via electronic payments such as Ovo, Go-Pay, Link only, Cash on Delivery (COD), bank account transfer, and so on [19].

There are additional developments in everyday life, such as the development of the internet and social media, in addition to the Internet of Things and e-commerce. The internet and social media are used for advertisements to promote tourist locations, food, sports equipment, and the newest fashion trends, in addition to being used as communication media. Integration of technology and society will be critical, as it is important to use drone deliveries, artificial intelligence, big data, autonomous trucks, and robotics for the benefit of humanity in the near future [14].

Based on the description of the types of internet services in the Industrial Revolution 4.0, the researchers set several indicators to determine the use of the internet by respondents. The use of social media, online video, online translation, online banking, digital wallets, online shopping applications, cloud storage, artificial intelligence, and big data are among the indicators to be measured. Each indicator is measured the level of use: don't know, know not use, using basic features, using advanced features.

B. *Respondents from Churches that Have No Internet Service*

The following analysis was conducted to find out whether the members of the church who do not have internet services also do not use internet services. If so, then it is a reasonable correlation. But if church members are people who actively use the internet, it means the church has fallen behind its members. By separating respondents from churches that have no internet

service, the researchers analyzed the relationship. Of the 286 respondents, 109 came from churches without internet service. The results are listed in Table I.

TABLE I.   RESPONDENTS FROM CHURCHES THAT HAVE NO INTERNET SERVICE.

Criteria	Quantity	Percentage
Don't know	9	8.26%
Know not use	44	40.37%
Using basic features	39	35.78%
Using advanced features	17	15.60%

Local churches that have no internet access must see that 51.38 percent of their members are comfortable utilizing the internet. Despite the fact that more than half of the residents are internet users, the church has not adapted successfully. As a result, churches that do not yet offer internet-based services must catch up with technical advancements that affect the congregation. Rather than seeing the reality of using social media with all of its risks, it is time for the church to provide new benefits for improving communication, community, and discipleship [20].

C. Use of the Internet by Church Leaders versus Church Members

In this analysis, the researcher sorts out the respondents who are church leaders and those who are church members. Researchers conducted a comparison by comparing the use of the internet by church leaders and church members. Of the 286 respondents, 129 were church leaders and 157 were church members. The results are listed in Table II and Table III.

TABLE II.   USE OF THE INTERNET BY CHURCH LEADERS

Criteria	Quantity	Percentage
Don't know	4	3.10%
Know not use	46	35.66%
Using basic features	49	37.98%
Using advanced features	30	23.26%

TABLE III.   USE OF THE INTERNET BY CHURCH MEMBERS

Criteria	Quantity	Percentage
Don't know	12	7.64%
Know not use	23	14.65%
Using basic features	77	49.04%
Using advanced features	35	22.29%

The comparation of two tables above shows that there are 71.33% of congregation members who are used to using internet applications, but there are still 3.10% of church leaders who do not know internet applications, and 35.66% know but do not use them. This shows that church leaders lag behind congregations in internet use. That's why church leaders need to wake up to not only take care of "spiritual" matters but ultimately cannot explore the lives of members of the congregation who have become more adept at using internet applications. Church leaders should be role models for church members [21], not only in spiritual matters but also in the use of technology. Church leaders should be at the front, not behind church members [22]. Church leaders must set a good example for how to use the internet wisely by providing education and concrete examples of how they use digital technology in their daily lives. Church leaders make decisions about how technology is used in the church, so church members are encouraged to use technology that supports ecclesiastical activities. Concrete changes are implemented using existing technology, such as announcements, offerings, or web-based or application-based services. Churches can also use digital technology to hold seminars or meetings, as well as to carry out evangelism.

IV. CONCLUSION

Whether we like it or not, the Industrial Revolution 4.0 is here to stay, and the church, as a community of people who believe in the Lord Jesus, must face it. As a community, the church can no longer discourse simply about spiritual matters while neglecting the fact that today's world is so technologically integrated. The church, as a corporation, has fallen behind its citizens in terms of internet usage, according to this study. That is why the church must develop in order to avoid becoming irrelevant to people living in the Industrial Revolution 4.0.

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