

# Measuring the Productivity of Indonesia Waqf Institution (2015-2021): A Malmquist Index

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This study aims to measure the productivity of waqf institutions in Indonesia using the Malmquist Productivity Index (MPI) method with the research period 2015-2021. The research objects used are 6 waqf institutions in Indonesia. The data from this study comes from the annual financial statements of each institution from the 2015-2021 period. The input variables in this study are employee costs, operational costs and fixed assets. And for the output variable is the collection and distribution of waqf. The results of this study explain that during the 2015-2021 period, the productivity level of waqf institutions in Indonesia had a fluctuating trend from year to year. Based on the average *tfpch* score, it is concluded that the productivity of waqf institutions shows an increase and technological change contributes optimally to the increase in the productivity of waqf institutions in Indonesia. Furthermore, the Covid-19 pandemic phenomenon does not have a significant impact on the productivity level of waqf institutions in Indonesia.

**Keywords:** Productivity, Waqf Institutions, Indonesia, Malmquist, MPI

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Received: 11 August 2023

Accepted: 3 October 2023

Published: 31 October 2023

Citation:

(2023) Measuring the Productivity of

Indonesia Waqf Institution (2015-2021):

A Malmquist Index.

International Journal of Waqf

3.1.

## INTRODUCTION

Waqf can be defined as the distribution of funds and other resources from consumption, which are then invested as productive assets to generate future income for individuals and groups. (Herindar & Rusydiana, 2022). Therefore, waqf is an activity that combines savings with investment (Pyeman et al., 2016). (Pyeman et al., 2016). As a form of voluntary donation, waqf serves a significant purpose in the context of Islamic development. Waqf is one of the Islamic financial instruments that has great potential to be used in developing the national economy. (Rofiq et al., 2022). Hasan et al. (2020) explained that waqf is a form of supervision or retention of property with a fixed value given as a religious donation and managed to help those in need.

Generally, waqf involves immovable assets such as land and buildings (Khamis & Salleh, 2018). One of the important principles in waqf management is that it prohibits the sale or conversion into consumptive assets, so it must continue to function as a productive asset. This illustrates that in theory, waqf should continue to grow and can even create new waqf. (Faradis et al., 2019). To increase the productivity of waqf assets, various sectors such as industry, trade, agriculture, service sector, health, education, and others can be used as a place for waqf management. The net profit from waqf assets will provide benefits in accordance with the purpose of waqf. (Hadyantari, 2018). Waqf in Islam is also a social financial instrument that needs to be in accordance with maqasid syariah principles (Oktaviani, 2022; Rusydiana et al., 2023).

In Indonesia, the waqf sector has experienced tremendous growth. This can be identified from the huge potential as well as the significant development in waqf practices in the country. According to the statistical data released by the [Waqf Information System of the Ministry of Religious Affairs \(2022\)](#), waqf land in Indonesia has been spread across 440.5 thousand locations with a total area of 57.3 hectares. In addition, the potential of waqf, especially cash waqf, is estimated to reach 180 trillion per year. (BWI, 2022). Indonesia's population also contributes significantly to the development of waqf, based on data from the [World Population Report \(2023\)](#) Indonesia accounts for around 12.7% of the world's total Muslim population. With this number, Indonesia has the potential to become a large and economically strong Islamic country. (Junaidi & Al-Asyhar, 2005). However, this potential must be managed well through effective waqf

governance so that there is no gap between the existing potential and the realization of waqf assets.

The development of waqf in Indonesia still faces some significant obstacles and challenges. Ningsih et al. (2022) highlighted the lack of socialization and the shortage of professional nazir resources as the main obstacles in the development of waqf today. According to data from BWI (2023) the number of Indonesian nazirs who have been officially certified at BWI is only 303 out of 400 thousand nazirs spread throughout Indonesia. This means that traditional nazir still dominate waqf management in Indonesia. This finding is in line with the view of Pyeman et al. (2016) which shows that in terms of management, waqf institutions still suffer from an imbalance in organizational structure. Waqf institutions often only operate with limited staff and knowledge in managing waqf assets. Therefore, the traditional method of managing waqf assets and the waqf administration model applied in waqf management institutions need to be revised.

The benefits of waqf are not only limited to assistance to Muslims, but also apply to the entire society, not only today but also since the past (Avedta, 2023). Therefore, maintaining the performance of waqf is important to ensure that waqf assets are well-managed. The effectiveness and efficiency of waqf asset management is crucial so that progress can be measured and to avoid tabdzir that can harm the ummah. For example, land around mosques that is no longer productive is often left abandoned, even though the land can be utilized, and the proceeds can be used for the maintenance of the mosque. (Djunaidi & Al-Asyhar, 2006). Therefore, this study will assess the extent of waqf institutions' productivity in managing waqf assets. Measuring productivity in waqf institutions allows for an assessment of the efficiency and effectiveness of various operational processes within the institution. This assessment, in turn, facilitates the identification of areas that may require improvement or optimization. In addition, productivity measurement helps in assessing the overall performance of the waqf institution in achieving its economic and social objectives.

The concept of productivity is defined as the ratio of output to input. Productivity is also defined as a combination of effectiveness and efficiency. Effectiveness is related to the expected output according to the target, while efficiency is the use of minimum resources with maximum results, so productivity can be formulated as follows (Gaspersz, 2001). In the KBBI, the word productivity is defined as the ability to produce something, especially goods and services, in the

maximum amount through the efficient utilization of human resources, along with all other input units. (Rustyani & Rosyidi, 2018). Therefore, productivity measurement is often interpreted as a comparison between the output and input of certain units (Nurasyah et al., 2018). (Nurasyah et al., 2019). According to Nurasyiah et al. (2019) productivity measurement is a complement to efficiency measurement. This is because there will be many possibilities in an industry that is in an efficient but unproductive condition and vice versa. Measuring the productivity of production factors means focusing on the output or revenue of an industry that results in profit or cost factors (Caves et al., 1982). (Caves et al., 1982).

This study has several objectives, namely to analyze the productivity of waqf institutions in Indonesia, as well as to evaluate the impact of the pandemic on the productivity of waqf institutions. In addition, this study also aims to compare the performance of each institution during the observation period. In this endeavor, several samples of waqf institutions' financial statements during the period 2015 to 2021 will be taken for analysis. By using the Malmquist Productivity Index approach, this study is expected to make an important contribution in understanding the extent to which waqf institutions have achieved their productivity level. In addition, the results of this study are expected to provide a solid basis for better policy formulation, as well as identify development opportunities and potential improvements for waqf institutions in the future. With a better understanding of the productivity of waqf institutions, it is hoped that strategic steps can be taken to advance the sector in a sustainable manner.

## LITERATURE REVIEW

Research that focuses on analyzing the productivity of waqf institutions is still limited, but some studies have been conducted. One of them is a study by Pyeman et al. (2016) who evaluated the efficiency score of the Waqf Department in Malaysia's State Islamic Religion Councils (SIRC) from 2007 to 2012. The data envelopment analysis (DEA) method was used to measure the efficiency index of waqf management. This study also utilizes Malmquist's Total Factor Productivity (TFP) to evaluate the growth and change of waqf institutions between two time periods, i.e., to dissect productivity into changes in technical score and technical efficiency. Moreover, Malmquist's TFP index provides the additional advantage of allowing the decomposition of productivity change into two

components, namely pure technical and scale change. The results show that the SIRC endowment department, with the highest improvement in efficiency over the four study periods, is located in the state of Penang. Therefore, Penang serves as a benchmark or example for other states in Malaysia in improving the efficiency of waqf institution management. The findings make an important contribution in understanding the productivity dynamics of waqf institutions and provide a foundation for further development in this area.

Literature study by Noordin et al. (2017) on performance measurement of third sector organizations and waqf institutions, shows that the importance of an effective performance measurement system in promoting good governance and ethical management in waqf institutions cannot be doubted. However, the findings also indicate that the current performance measurement practices of waqf institutions lack standardization and do not cover all aspects of performance, both as religious and voluntary organizations. The study found that the majority of waqf institution management and researchers tend to rely on financial reporting and economic indicators as the primary method for reporting waqf institution performance to stakeholders. This suggests that the performance measurement approach of waqf institutions still needs to be further expanded to cover other aspects that are also relevant and significant in the context of waqf institutions, such as social impact, sustainability, and fulfillment of religious objectives.

Other works, by Hasan et al. (2020) focused on measuring efficiency in two states, namely Kelantan and Penang, which managed waqf funds through the State Islamic Religion Councils (SIRC) of Malaysia during the period 2008 to 2010. The methods used in this study include Data Envelopment Analysis (DEA) and Malmquist Productivity Index (MPI). The findings showed that only one state, Penang, managed to achieve the full efficiency score and became the benchmark, while Kelantan is still far from the maximum efficiency level. The research also provides recommendations to the Kelantan Waqf Department and Pahang Waqf Department to make major changes, including additional staff, branches, size and other measures. These recommendations are expected to help improve the operational efficiency of waqf institutions in the state. This study makes an important contribution to the understanding of factors affecting the efficiency of waqf institutions and provides practical insights for further improvement and development.

This study attempts to fill the gap in research related to measuring the productivity of waqf institutions. The focus of the research will be on waqf institutions in Indonesia during the observation period from 2015 to 2021. By focusing on this time period, this study is expected to provide a deeper insight into the dynamics and development of waqf institutions' productivity in Indonesia.

## METHODOLOGY

The Malmquist Index is an indicator used to measure productivity. This index was first created by Sten Malmquist in 1953, but was later reintroduced by Caves et al (1982). The Malmquist Index measures two things, namely the catch-up effect and the frontier shift effect. The catch-up effect measures the level of change in relative efficiency from the first period to the second period. Meanwhile, the frontier shift effect measures the level of technological change, the combination of inputs and outputs from the first period to the second period. Frontier shift effect is also known as the innovation effect (Caves et al., 1982; Rani et al., 2017; Rusydiana, 2018).

The Malmquist Index has several advantages that make it a good choice for measuring productivity. First, it is a non-parametric method, so it does not require the specification of a production function. Second, the Malmquist index does not require assumptions about the behavior of economic production units, such as cost minimization or profit maximization. Third, the calculation of this index does not require price data, which is often unavailable, so it is helpful if the objective is a different or unknown manufacturer. Fourth, the Malmquist productivity index can be divided into two components, namely efficiency change and technological change (Marlina et al., 2018).

To measure the Malmquist productivity index, this study uses DEAP 2.1 software as an analytical tool. This research was conducted on 6 waqf institutions in Indonesia during the period 2015 to 2021. All data used is collected from the annual reports of waqf institutions available in the publication reports on each waqf institution's website. In selecting the sample of waqf institutions, all relevant data is required for a span of seven years from 2015 to 2021, resulting in a sample of 6 waqf institutions in Indonesia.

The input variables in this study are employee costs, operational costs and fixed assets. Meanwhile, the output variables are waqf collection and distribution. By adopting the intermediation approach to measure the productivity of financial institutions. The calculation of

waqf institution productivity uses the output-oriented BCC or VRS approach. Furthermore, the estimation of TFP growth and its components refers to the malmquist index and uses the Cobb-Douglas production function.

Furthermore, in this study, the method used to measure productivity is part of Data Envelopment Analysis (DEA), namely the Malmquist Productivity Index (MPI). Then, changes in total factor productivity (TFPCH) can be divided into technological change (TECHCH) and efficiency change (EC) (EFFCH). The efficiency change index can be further decomposed into a PECH component (pure efficiency change) that is comprehensively calculated against VRS technology, and a SECH component (scale change) that captures the change in deviation between VRS and CRS technology (Tyas & Rusydiana, 2020).

Factors affecting productivity changes can be seen through the values of the efficiency change index (EFFCH) and technology change index (TECHCH) to explain the reasons for productivity changes. In addition, the pure efficiency change index (PECH) and scale efficiency change index (SECH) are used to determine the causes of changes in the efficiency change index (EFFCH). The value of total factor productivity (TFP) indicates the change in the index. A value of  $M > 1$  indicates an increase in productivity;  $M = 1$  indicates no increase in productivity; and  $M < 1$  indicates a decrease in productivity.

## RESULT & ANALYSIS

### Productivity of Waqf Funds in Waqf Management Institutions in Indonesia During the Observation Period

Productivity change factors can be identified through the Efficiency Change Index (EFFCH) and Technology Change Index (TECHCH) values. Meanwhile, the Pure Efficiency Change Index (PECH) and Scale Efficiency Change Index (ECH) are used to determine the cause of changes in EFFCH. Furthermore, the value of Total Factor Production (TFP) is intended to see any changes in the index. If the value of  $M > 1$ , then it explains an increase in productivity, and vice versa, where if  $M < 1$  indicates a decrease in productivity value. If  $M = 1$  then there is no increase in productivity.

The table below explains the results of the analysis using the Malmquist Productivity Index (MPI) of waqf funds in Indonesia that are the object of observation in this study.

Table 1. Average Malmquist Index Score of Waqf Funds in Waqf Management Institutions per Year

Year	effch	techch	pech	sech	tfpch
2015-2016	0,647	1,046	1,088	0,595	0,676
2016-2017	1,245	0,360	0,719	1,730	0,448
2017-2018	1,307	0,096	1,390	0,940	0,125
2018-2019	0,341	1,636	0,486	0,701	0,558
2019-2020	2,049	0,661	1,752	1,169	1,354
2020-2021	0,970	1,000	0,859	1,130	1,000
<b>Mean</b>	<b>0,945</b>	<b>3,297</b>	<b>0,963</b>	<b>0,982</b>	<b>3,116</b>

The table above explains the changes in the total productivity (Tfpch) of waqf management institutions as well as its influencing factors, namely technological change (Techch) and efficiency change (Effch) during the observation period. From the MPI results of waqf funds in 6 waqf management institutions in Indonesia, it can be concluded that the productivity trend fluctuates from year to year. The average score results show that the productivity value of waqf funds in waqf management institutions has increased (3.116) which is influenced by the increase in technological change (3.297), although the change in efficiency has decreased (0.945). This explains that technological change dominantly contributes to increasing the productivity of waqf funds in Indonesia.

Throughout the 2015-2019 period, the average productivity level of waqf funds in waqf management institutions has decreased, with the tfpch value for each period being 2015-2016 (0.676), 2016-2017 (0.448), 2017-2018 (0.125), 2018-2019 (0.558). The decrease in productivity in the 2015-2016 period was dominantly influenced by changes in efficiency which also decreased (0.647), although technological changes showed an increase (1.046). Then, in the next period, 2016-2017,

the decline in productivity was dominantly influenced by changes in technology which decreased (0.360), although changes in efficiency increased (1.245). The same thing also happened in the 2017-2018 period, where technological changes showed a decrease (0.096), while changes in efficiency increased (1.307). Then, in the 2018-2019 period, the decrease in productivity was dominantly influenced by the decrease in efficiency change (0.341), while the change in technology increased (1.636).

Furthermore, the results in the 2019-2020 period, the productivity level of waqf funds has increased, while in the 2020-2021 period it is constant, with tfpch values of (1.354), and (1.000), respectively. The 2019-2020 period is the period with the highest productivity level throughout the study period. Then for efficiency changes in the 2019-2020 period, it increased (2.049), while technological changes decreased (0.661). Furthermore, in the 2020-2021 period, changes in efficiency decreased with a value of (0.970), on the other hand, technological change (1,000) did not show an increase (constant) in this period. If analyzed further, the productivity trend of waqf Institutions in Indonesia can be seen in the figure below.

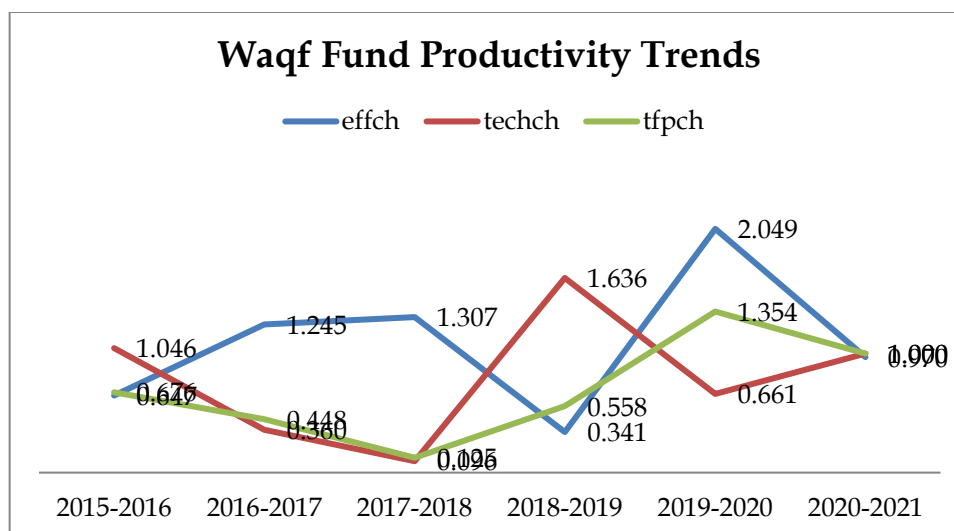


Figure 1. Productivity Trend of Waqf Funds in Indonesia

Based on the figure above, it can be concluded that the trend of waqf fund productivity in Indonesia fluctuates from year to year. Judging from the trend of *tfpch* or the level of productivity, in the 2017-2018 period there was a very significant decrease in productivity, which then increased until the 2019-2020 period. Then, the productivity level decreased again in the 2020-2021 period. Almost the same thing also happens to *tech* trends or technological changes which also fluctuate from year to year. Technological changes showed a significant decline in the 2016-2017, 2017-2018 and 2019-2020 periods. Meanwhile, the increase in technological change occurred in the periods 2015-2016, 2018-2019, and 2020-2021. Furthermore, in changes in efficiency or *effch*, it can be concluded that the increase

in *effch* occurred throughout the 2016-2018 period, and the 2019-2020 period. Meanwhile, the decrease in *effch* occurred during the 2018-2020 and 2020-2021.

### Productivity of Waqf Funds in Indonesia during the Covid-19 Pandemic

The phenomenon of the Covid-19 pandemic at the end of 2019 until it spread to Indonesia in early 2020 certainly had a global impact not only on the health sector but also on the economic and social sectors of society, especially in waqf fund management institutions as non-profit institutions that collect and distribute social funds (ZISWAF). Therefore, the following analysis explains the productivity of waqf funds before and during the Covid-19 pandemic.

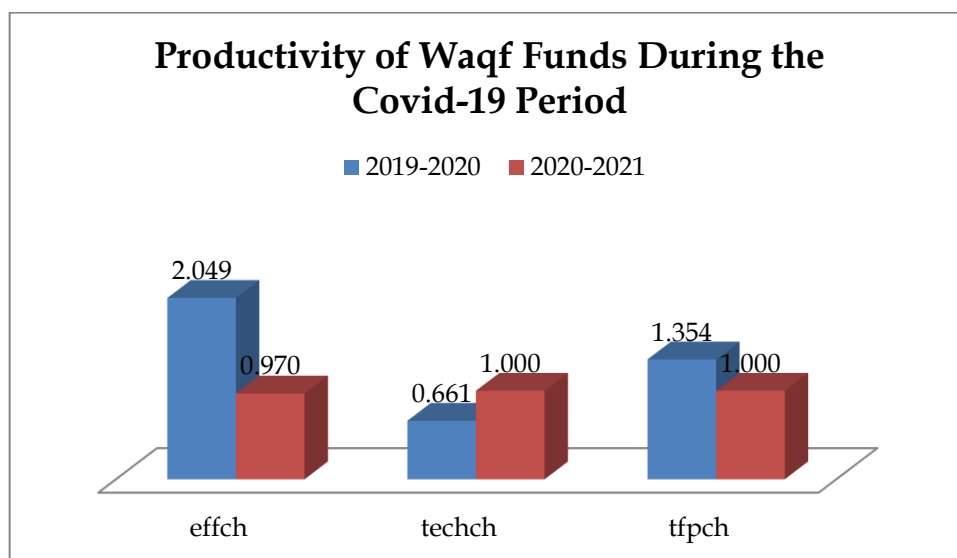


Figure 2. Productivity of Waqf Funds during the Covid-19 Pandemic

Based on Figure 2 above, it can be concluded that the Covid-19 pandemic does not have a significant effect on the level of productivity of waqf funds in Indonesia. This is evidenced by the 2019-2020 period, where Covid-19 began to spread massively in Indonesia, showing that the level of productivity of waqf funds in Indonesia still shows an increase. The increase in

productivity in this period was due to the increase in the level of efficiency change to reach a value of (2.046), although the level of technology use (*techch*) decreased (0.661). Then, in the 2020-2021 period, the productivity level shows no increase or constant, which is equally caused by the decreasing efficiency change (0.970) and the constant technology change (1.000).

Table 2. Average Productivity of Waqf Funds 2015-2021

Firm/DMU	effch	techch	pech	sech	tfpch
DD	1,106	0,382	1,073	1,031	0,423
GYD	0,721	4,255	0,731	0,985	3,067
IZI	0,877	4,715	1,000	0,877	4,138
LAZ MU	1,000	5,004	1,000	1,000	5,004
PYI	1,019	5,318	1,014	1,005	5,418
YYMS	1,000	6,294	1,000	1,000	6,294
<b>Mean</b>	<b>0,945</b>	<b>3,297</b>	<b>0,963</b>	<b>0,982</b>	<b>3,116</b>

Based on the table, the average productivity of waqf funds throughout the study period shows an increase in productivity (3.116). This increase in productivity is influenced by an increase in the average value of technological change (techch) with a value of (3.297). Meanwhile, the change in efficiency (effch) decreased with a value of (0.945). Furthermore, the analysis conducted individually on waqf management institutions, it can be concluded that there are five institutions with increased productivity, namely GYD with a value of (3.067), IZI with a value of (4.138), LAZ MU (5.004), PYI (5.418), and YYMS (6.297). The high level of productivity in the five waqf management institutions is equally influenced by increased efficiency changes and technological changes in particular. Then, the waqf Institution with the lowest productivity value is obtained by DD with a productivity value of (0.423), where the low productivity is influenced by the decrease in techch (0.382), while effch increases (1.106).

### Malmquist Index Quadrant

At this stage, waqf management institutions will be grouped into four quadrants based on the level of efficiency and the level of technology, with high and low categories. The value of efficiency and technology is seen from the industry average, if the value of efficiency and technology is higher than the industry average, it indicates a high category, and vice versa, if efficiency and technology are below the industry average, it indicates a low category.

Quadrant 1 describes waqf management institutions with high efficiency and technology categories, and it can be considered that the waqf Institution has a high level of technology. Quadrant 2 includes high technology, but on the other hand efficiency is still low. Quadrant 3, includes a group of waqf management institutions with low technology, and high efficiency. And quadrant 4, describes a group of waqf management institutions with technology and efficiency both showing low categories.

Table 3 Quadrant Malmquist Index of Waqf Management Institutions

<b>Quadrant 1 (High Technology, High Efficiency)</b>	<b>Quadrant 2 (High Technology, Low Efficiency)</b>
LAZ MU PYI YYMS	GYD IZI
<b>Quadrant 3 (Low Technology, High Efficiency)</b>	<b>Quadrant 4 (Low Technology, Low Efficiency)</b>
DD	

Based on the table above, it can be concluded that waqf management institutions dominate in quadrant 1 with a total of 3 waqf management institutions. Then quadrant 2 with 2 institutions, and quadrant 3 with 1 institution. Based on this, waqf management institutions in Indonesia already have a high level of productivity and many institutions have also adopted technology. On the other hand, the efficiency level of waqf management institutions in Indonesia is still quite low when compared to technology adoption.

### Findings

Based on the results of the analysis, there are several findings that can be used as a basis for policy making to increase productivity in waqf management institutions in Indonesia. The first finding, from the *Malmquist Productivity Index* (MPI) score based on the analysis during the research period on waqf management institutions, explains that the level of productivity in waqf management institutions fluctuates from year to year. Based on the average tfpch score, it is concluded that the productivity of waqf management institutions

shows an increase, which is caused by an increase in technological change (techch), although the change in efficiency (effch) has decreased. That means, efficiency changes have not contributed optimally to the productivity level of waqf management institutions in Indonesia. This is confirmed by the results of research based on each individual waqf management institution, where it was found that there were five waqf management institutions that experienced an increase in productivity, namely GYD, IZI, LAZ MU, PYI, and YYMS, and one institution experienced a decrease in productivity. The results of this study are relevant to research from [Rusydiaana & Widiastuti \(2018\)](#) which states that the level of productivity at waqf Institutions in Indonesia fluctuates and increases, where the increase in productivity is due to technological changes, while changes in efficiency have not contributed optimally.

The results of this study also contradict research from [Uula \(2022\)](#) that the productivity of waqf funds in Indonesia fluctuates and on average shows a decrease in productivity which is equally influenced by declining efficiency changes and technological changes. The level

of waqf productivity in Indonesia can decline due to several factors, including the lack of facilities to increase the economic value of waqf assets, limited understanding of waqf, lack of public trust in waqf institutions, and the absence of integrated data related to waqf (BWI, 2021). On the other hand, the level of waqf productivity can be increased by maximizing the potential of related assets to support the national economy and improve the welfare of the people. Meanwhile, the decline in waqf productivity can occur because many people in Indonesia do not fully understand the true potential and benefits of waqf, leading to a lack of interest and support for waqf initiatives. In addition, public trust in waqf institutions is still low, which may discourage potential donors and investors from participating in waqf activities.

The second finding, in the analysis during the Covid-19 pandemic, found that the Covid-19 pandemic did not affect the productivity of waqf management institutions in Indonesia. At the beginning of the period, the productivity level still showed an increase, then in the next period, 2020-2021, the productivity level showed a constant value. This can be caused by the fact that social funds such as waqf, zakat and donations have also increased due to the increasing number of people who want to help others during the pandemic. In addition, the pandemic has highlighted the importance of waqf in supporting community welfare, leading to an increase in demand for waqf-based support in various sectors (Iskandar & Munadiati, 2023).

Furthermore, the Indonesian government and waqf institutions have taken proactive steps to adapt to the pandemic situation, such as implementing integrated financial management and encouraging productive waqf to help communities affected by the pandemic (Kusmayadi & Noviyanti, 2021). Iskandar & Munadiati (2023) added that the pandemic provides an opportunity for the utilization of waqf assets to improve the economy and support the recovery of various sectors. The use of technology also plays an important role in the productivity level of waqf management institutions in Indonesia. The use of digital waqf technology can increase public interest in giving zakat or waqf and implement efficiency and effectiveness in the implementation of management operations (Abidin & Utami, 2020). Friantoro & Zaki (2019) also stated that the utilization of financial technology can help waqf management institutions to collect waqf more efficiently. Salleh & Chowdhury (2020) also emphasized that technology adoption can help philanthropic institutions to increase their efficiency and productivity.

The last finding, on the Malmquist Index quadrant analysis categorized into four quadrants, shows that waqf management institutions dominate quadrant 1 with high technology and high efficiency categories, totaling 3 institutions, followed by quadrant 2 with high technology and low efficiency categories, and quadrant 4 with low technology and high efficiency categories, with the number of institutions being 2 and 1 institutions respectively. This explains that overall the level of productivity and technology adoption of waqf management institutions in Indonesia is quite high, although there are still institutions with low efficiency levels. According to research by Hasan et al (2020), found that the efficiency of public waqf institutions is low due to several factors, including lack of transparency, inadequate management, and limited resources. Rusydiana et al (2022) found that the efficiency of waqf funds managed by philanthropic institutions is also low, mainly due to the lack of proper management and utilization of waqf assets. Alshater et al (2022) stated that the lack of proper management and utilization of waqf assets is a common problem in many countries, leading to low efficiency levels of waqf institutions. In addition, the lack of comprehensive data on waqf institutions and their performance also poses a challenge in assessing their efficiency level.

## CONCLUSION

This study aims to analyze the productivity level of waqf management institutions in Indonesia during the 2015-2021 period using the Malmquist Index. The results of the Malmquist Productivity Index (MPI) score based on the analysis of each waqf management institution explain that the level of productivity in waqf management institutions fluctuates from year to year. Based on the average tfpch score, it is concluded that the productivity of waqf funds managed by waqf management institutions shows an increase, which is due to the increase in technological change (techch), although the change in efficiency (effch) has decreased. That means, efficiency changes have not contributed optimally to the increase in productivity of waqf management institutions in Indonesia. Then, there are five waqf management institutions that experienced an increase in productivity, namely GYD, IZI, LAZ MU, PYI, and YYMS, and one waqf management institution experienced a decrease in productivity.

Furthermore, the analysis during the Covid-19 pandemic found that the Covid-19 pandemic did not have a significant effect on the productivity of waqf management institutions in Indonesia. At the beginning

of the period, the productivity level still showed an increase, then in the next pandemic period, 2020-2021, the productivity level showed a constant value or did not show an increase. Then, the Malmquist Index quadrant analysis categorized into four quadrants shows that waqf management institutions dominate quadrant 1 with low technology and high efficiency categories, namely 3 waqf management institutions, which are then followed by quadrant 1 with technology and high efficiency categories totaling 2 institutions, and quadrant 3 with low technology and high efficiency categories, with the number of waqf management institutions being 1 institution. This explains that waqf management institutions in Indonesia already have a high level of productivity and many institutions have also adopted technology.

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