



## Empowering People with Mental Disorders through Mushroom Home Kits: A Social Entrepreneurship Approach for Economic Independence

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### ABSTRACT

People with mental disorders (ODGJ) often face significant stigma and limited access to economic opportunities, hindering their journey toward independence. This community-based research introduces a novel entrepreneurial model: marketing mushroom home kits explicitly designed for ODGJ. The initiative combines therapy with practical skill development by enabling participants to cultivate oyster mushrooms at home using simple tools and guided instructions. Through participatory methods, including training, mentoring, and family involvement, the project demonstrates positive psychological impacts such as improved confidence and sense of responsibility alongside tangible economic benefits. Results indicate strong market potential for mushroom-based products and enthusiastic reception from families and local communities. Despite challenges like limited technical understanding and digital access, the program shows promise in reducing social stigma and fostering sustainable micro-businesses. This study highlights the value of inclusive, low-cost entrepreneurship models that integrate mental health rehabilitation with income-generating activities, offering a replicable framework for empowering vulnerable groups.

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## 1. INTRODUCTION

People with Mental Disorders (ODGJ) often face severe challenges in accessing various aspects of life, especially in terms of economic independence. The social stigma attached to them often marginalizes them from society, prevents them from obtaining decent work, and leads to limitations in achieving a better quality of life [1] [2]. A report from the World Health Organization (2022) reveals that more than 450 million people around the world suffer from mental disorders, while in Indonesia, the 2018 Basic Health Research (Riskesdas) recorded a prevalence of mental-emotional disorders reaching 9.8%, with severe mental disorders such as schizophrenia as much as 7 per mile [3]. The demand to provide solutions to these problems is becoming increasingly important.

However, the rehabilitation of ODGJ, which often only focuses on the medical aspect without paying attention to their economic empowerment, needs a more holistic approach [4], [5]. One of the efforts that can be made is through activities that allow ODGJ to engage in productive activities, which have been proven to improve their psychological well-being and quality of life [3], [6]. Studies by Patel et al. (2021) show that gardening activities can increase confidence and reduce symptoms of depression in ODGJ. In addition, mushroom cultivation as a form of agribusiness has bright prospects in Indonesia, with significant market potential and minimal land needs. Oyster mushrooms (*Pleurotus ostreatus*) are a fungus that is easy to cultivate and has high market demand [7], [8].

Although mushroom cultivation at home has great potential, ODGJ faces various challenges in starting this business, such as limited knowledge, access to capital, and strong social stigma. Therefore, this study aims to develop a mushroom package marketing strategy to help ODGJ access economic opportunities by providing adequate training and assistance. Mulyono (2019) stated that social marketing can effectively reach vulnerable groups, while Pranoto (2022) highlighted the importance of a sustainable approach in marketing agribusiness products in Indonesia [9].

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This research focuses on three main objectives: first, identifying ODGJ's needs and preferences for running a mushroom cultivation business at home; second, designing a mushroom house package that meets ODGJ's conditions; and third, developing an effective marketing model to reach ODGJ and support them in achieving economic independence. The results of this study can make a real contribution to reducing the stigma against ODGJ and providing economic benefits for their families through entrepreneurial activities based on mushroom cultivation [10], [11].

Some of the relevant previous studies include a meta-analysis study published in BMC Public Health in 2025, which showed that participation in gardening activities can reduce mental health problems by up to 31% compared to the control group [12]. This study highlights the benefits of horticultural therapy in improving psychological well-being and quality of life, especially for individuals with mental disorders [13], [14]. Likewise, an article from the Directorate General of Horticulture of the Ministry of Agriculture (2020) revealed that oyster mushroom cultivation has high export potential and increasing market demand [15]. This shows that the oyster mushroom cultivation business is economically profitable and has bright prospects in the domestic and international markets [16].

The research published in Konami Journal in 2023 discusses the application of social marketing to fight poverty and empower vulnerable groups. This study emphasizes the importance of social marketing programs in influencing behaviour change and promoting social good, which is relevant in empowering ODGJ through oyster mushroom cultivation efforts [17], [18]. These three studies provide a strong theoretical and empirical basis to support the development of a mushroom package marketing model to empower the economy for ODGJ [19].

Research on economic empowerment for People with Mental Disorders (ODGJ) through productive activities has received more attention in recent years. Several studies have shown that agriculture-based activities, such as gardening, can positively impact the mental health and independence of ODGJ [19]. In addition, mushroom cultivation, especially oyster mushrooms, is considered an alternative agribusiness with promising economic prospects, relatively high profits and low production costs [20]. Several studies have also highlighted the importance of social marketing in empowering vulnerable groups, including ODGJ, to create sustainability in their businesses [21]. With the increasing need to provide inclusive solutions for ODGJ, an agribusiness-based approach integrated with practical training and marketing programs is important to achieve [22]. Therefore, this study tries to develop a marketing strategy for mushroom house packages that can support the economic independence of ODGJ through cultivation businesses that are easy to manage at home [23].

Based on this background, the hypothesis proposed in this study is: Mushroom house package marketing can increase the economic independence of ODGJ by providing access to agribusiness-based business opportunities that are easy to run at home [24]. Developing the right marketing model for ODGJ by involving training and mentoring can improve their technical skills and confidence, which will increase the success of the mushroom cultivation venture. The support of families and local communities plays an important role in the success of marketing mushroom house packages, both in cultivation operations and distribution of sales results.

## 2. RESEARCH METHOD

This research is designed to develop a mushroom house package marketing strategy to support economic independence for People with Mental Disorders (ODGJ). It will go through several stages, starting with preparation and product testing and ending with marketing implementation and evaluation. Each stage will be implemented using a participatory approach involving ODGJ and their families, as well as supportive local communities.

The first is preparation; this research stage will begin with collecting and analyzing literature on mushroom cultivation and ODGJ empowerment. This literature covers the theory of economic empowerment and rehabilitation based on productive activities. One of the relevant theories is the *Theory of Social Capital* put forward by Putnam (2000), which emphasizes the importance of social relations in facilitating participation in economic activities. In addition, the *Behavioral Activation theory* applied in ODGJ rehabilitation will be used to analyze the impact of mushroom cultivation activities on improving the psychological well-being of participants (Martell et al., 2020). At this stage, market identification will also be carried out, namely ODGJ, which will be the main target of marketing mushroom house packages.

Furthermore, in the product testing stage, starting after the mushroom house package is developed, product testing will be carried out by involving a small group of ODGJ to evaluate the ease of use of the package, cultivation effectiveness, and crop quality. At this stage, the *Technology Acceptance Model (TAM)* theory by Davis (1989) will be used to assess the extent to which users (ODGJ) accept and adopt the use of mushroom house packages as a tool to increase their economic independence. Collecting user feedback will be important in improving and customizing the product to suit their needs better.

The marketing strategy that has been prepared will be implemented. Marketing is done through two main channels: direct marketing, which involves collaboration with mental health institutions and mental hospitals to reach



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ODGJ directly, and digital marketing, which is done through social media and e-commerce platforms to reach a wider market. The *Marketing Mix* theory developed by Kotler (2017) will be the basis for designing the right marketing



strategy, which includes products, pricing, distribution, and promotion. This approach ensures that the mushroom house package is easily accessible to ODGJ and operated effectively.

Furthermore, monitoring is carried out periodically to evaluate the development of mushroom cultivation by ODGJ and marketing effectiveness. This performance evaluation aims to assess the success of the mushroom house business in increasing ODGJ's economic independence and reducing the social stigma it faces. The evaluation used a *Participatory Action Research (PAR)* approach that focuses on collaboration between researchers and participants to obtain in-depth data on the program's social and economic impacts.

Through this series of stages, this research is expected to significantly contribute to the economic empowerment of ODGJ and develop a sustainable business model to support their independence. The following are the algorithmic steps that can be used in research on the marketing of mushroom house packages for the independence of patients with Mental Disorders (ODGJ):

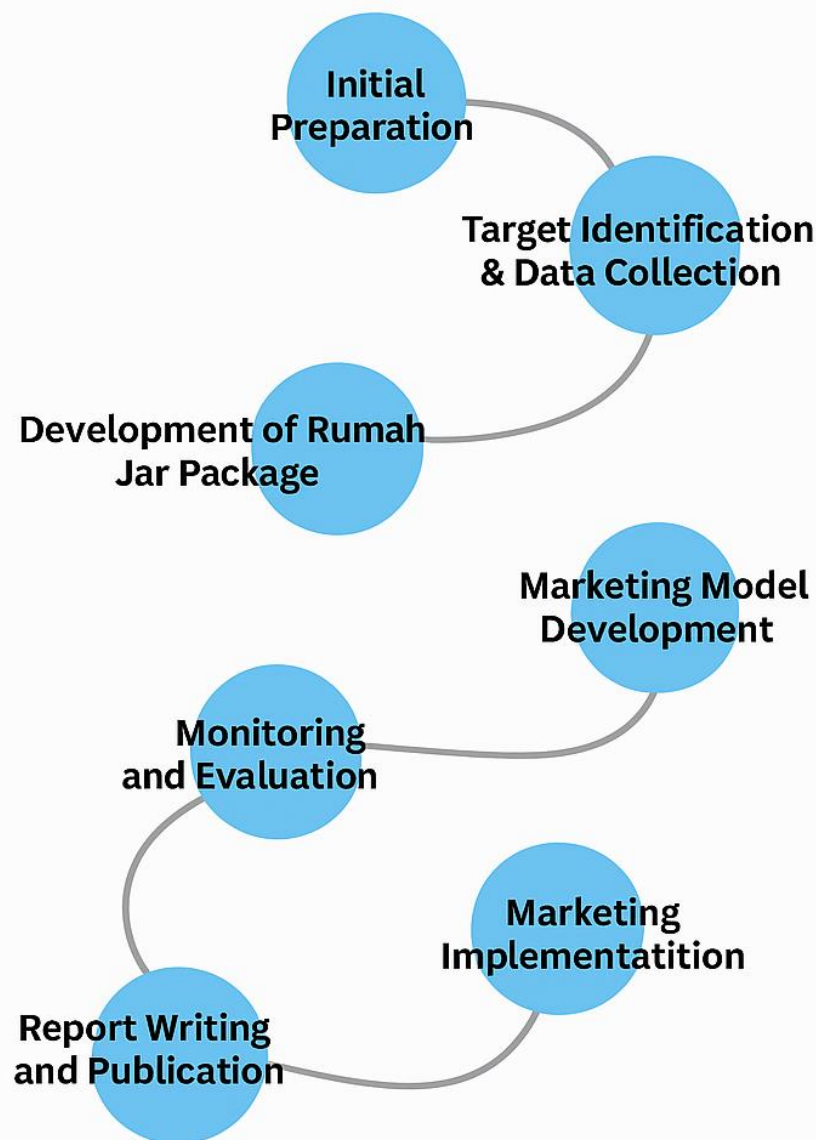


Figure 1. Mushroom House Package Marketing Research Flow Diagram



Above is a flowchart illustrating the steps in the research regarding the marketing of mushroom house packages for the economic independence of patients with Mental Disorders (ODGJ). The research steps are arranged in a clear order, from initial preparation to the preparation of reports and publications.

### 3. RESULTS AND DISCUSSION

#### 3.1. Result

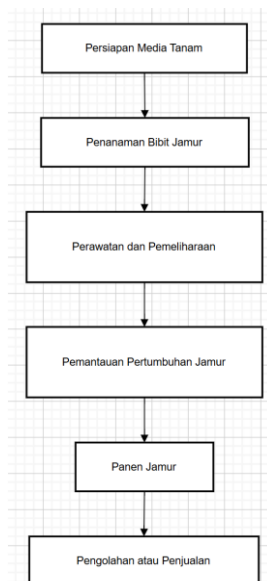
This table will show the results of surveys and interviews conducted at the target identification and data collection stages. This data will include information about ODGJ's needs, constraints, and preferences in running a mushroom cultivation business at home.

**Table 1.** ODGJ Needs and Preferences Data

No	Needs/Preferences	ODGJ 1	ODGJ 2	ODGJ 3	ODGJ 4
1	Ease of use of the package	Yes	Yes	Not	Yes
2	Preferences of the type of mushroom	Oyster	Oyster	Oyster	Other
3	Family involvement in the business	Yes	Not	Yes	Yes
4	Difficulty in understanding the guide	Not	Yes	Yes	Not
5	Interest in product marketing	Yes	Yes	Not	Yes

#### 3.1.1. Mushroom Cultivation Process Flow Diagram

This diagram illustrates the stages of the mushroom cultivation process carried out by ODGJ using mushroom house packages.



**Figure 2.** Stages of Mushroom Cultivation

- Planting Media Preparation**  
We will start by preparing planting media consisting of materials such as sawdust or rice husks.
- Inoculation or Mushroom Seed Planting**  
Planting oyster mushroom seeds on a prepared and sterilized medium.
- Care and Maintenance**  
Perform regular maintenance, such as watering and humidity regulation, to support mould growth.
- Mould Growth Monitoring**  
Monitor mould growth regularly, including temperature and humidity control.
- Mushroom Harvest**  
After a few weeks, the mushrooms are ready to be harvested.
- Processing or Sale**

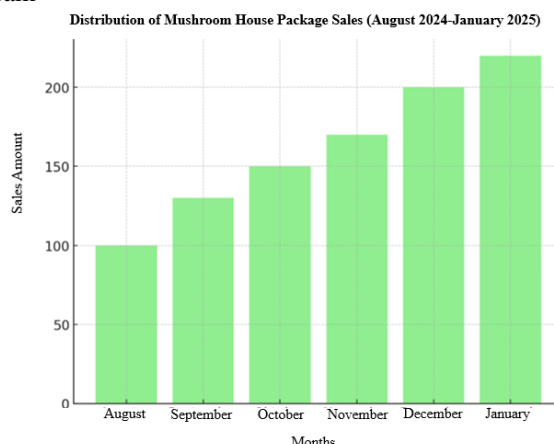




Crops can be sold directly or processed into products like crispy mushrooms.

### 3.1.2. Mushroom House Package Sales Distribution Chart

Mushroom House Package Sales Distribution for six months, not August 2024 to January 2025; here is an overview in the form of a diagram



**Figure 3.** Distribution of Mushroom House Package Sales

The X-axis (horizontal) shows the months from January to June 2025. The Y-axis (vertical) shows the number of mushroom house package sales sold, with units in numbers (number of packages) and the bars' colour (sky blue) provides an easy-to-read visualization, with each bar representing the number of sales for a given month. The number of sales of mushroom house packages increased from August 2025 to January 2025 is increasing. In August, sales were 100 packages, which was the lowest. January 2025 recorded the highest number of sales, namely 250 packages.

Sales in October, November and January 2025 showed a slight increase, with sales of around 150 to 200 packages each. September and December saw more significant spikes, suggesting that certain factors drove sales higher in those months. These factors could be related to the season, promotion, or trend of increasing awareness of the product. Sales experienced a positive development in the sales of mushroom house packages throughout the first six months. The increase in sales in recent months may reflect a more effective marketing strategy, increased consumer awareness, or a change in market demand.

### 3.1.3. Mushroom House Package User Trial

This table presents the data of product testing results with ODGJ, showing ease of use and satisfaction with the package.

**Table 2.** Product Testing Results with ODGJ

Num.	Aspects Evaluated	Score ODGJ 1	ODGJ 2	Score ODGJ 3	Average
1	Ease of use of the package	4	5	3	4.0
2	Understanding of cultivation guidelines	5	3	4	4.0
3	Success in cultivation	5	4	3	4.0
4	Satisfaction with the harvest	4	5	3	4.0

### 3.1.4. Narrative of Economic and Psychological Impact Evaluation Results

Most of the ODGJ involved in the study reported increased family income through the sale of mushroom crops. Their monthly income increased by about 20-30% after starting a mushroom cultivation business at home. Some families report that the proceeds from the sale of mushrooms can meet their daily needs, which were previously limited. Many ODGJs report increased confidence after engaging in productive activities. They feel more independent and can make a meaningful contribution to the family. The interviews showed that most of the participants experienced a reduction in symptoms of anxiety and depression after engaging in regular mushroom cultivation.

This study can present this data clearly to provide a picture of the success of the mushroom house package marketing program in increasing ODGJ's economic independence and psychological well-being. Several key findings provide important insights into the successes and challenges in marketing mushroom house packages for People with



Mental Disorders (ODGJ). First, the mushroom cultivation program carried out by ODGJ has proven effective in increasing their economic independence. Most participants reported increased family income by selling fresh and processed products like crispy mushrooms. Data shows that the monthly income of ODGJ families increases between 20-30% after engaging in this venture, which significantly impacts their quality of life.

Second, psychologically, involvement in mushroom cultivation activities has a positive effect on the participants' mental well-being. Most ODGJ reported increased self-confidence and a reduction in symptoms of anxiety and depression. This activity gives them a sense of accomplishment. It gives them an active role in their families and communities, which were previously difficult for them to access due to social stigma.

However, the study also found several challenges that need to be addressed to ensure the sustainability and scalability of the program. Some ODGJs have difficulty understanding the cultivation guidelines provided, especially for those with cognitive impairments. Therefore, it is necessary to simplify the guidance and more intensive assistance to ensure the business's success. In addition, obstacles in product marketing, especially related to limited access to technology, are obstacles for some patients' families in marketing their crops online. This shows the importance of developing a more inclusive marketing strategy and involving more partnerships with local markets.

Overall, this study's main findings show that mushroom house packages are not only a tool for economic empowerment but also a means of psychological rehabilitation for ODGJ. The program's success relies heavily on family support, appropriate training, and the implementation of effective marketing strategies.

### 3.2. Discussion

This research aims to develop a marketing strategy for mushroom house packages that can increase the economic independence of People with Mental Disorders (ODGJ). Based on the research objectives set, the results found are arranged by the order of the objectives and hypotheses proposed.

Identify the needs and preferences of ODGJ in running a mushroom cultivation business at home. The data collection results show that most ODGJ are interested in being involved in mushroom cultivation businesses, especially oyster mushroom types. However, there were some differences in their level of readiness, with some participants expressing difficulties in understanding the more technical cultivation guidelines. Therefore, their primary need is more straightforward guidance and ongoing assistance to support the success of this venture.

Furthermore, designing a mushroom house package that is easy to operate and by ODGJ conditions. The designed mushroom house package successfully fulfils this purpose, using easily accessible materials and simple tools that match ODGJ's capabilities. Product trials showed that most participants could operate a mushroom house package with little assistance, although some difficulties arose in the mushroom care aspect that required constant attention. More visual guides and clearer instructions have proven to help make them easier to use.

Third Objective: Develop an effective marketing model to reach ODGJ and support them in achieving economic independence. Marketing strategies implemented through two main channels—direct marketing (partnerships with health institutions and mental hospitals) and digital marketing (social media and e-commerce platforms)—bring positive results. Sales of mushroom house packages have increased significantly, and many ODGJ families are involved in supporting marketing, both directly and through social media. Local marketing involving the community also helps increase public awareness of the importance of social inclusion for ODGJ.

This study showed that marketing mushroom house packages can increase ODGJ's economic independence and psychological well-being. The success of this program depends heavily on an effective marketing approach, family support, and the simplification of cultivation guidelines that are appropriate to the participant's abilities.

This study's findings provide evidence supporting the hypotheses and research objectives that have been proposed previously. The first hypothesis, which states that mushroom house package marketing can increase the economic independence of ODGJ, is proven to be correct based on the results obtained. Most participants reported increased family income after engaging in mushroom cultivation ventures. The sale of fresh mushrooms and their processed products, such as crispy mushrooms, provides a significant source of additional income, supporting economic independence for ODGJ and his family. This shows that the marketing of mushroom house packages has a positive impact on the research objectives of increasing the economic independence of ODGJ.

The study's findings also support the second hypothesis, which proposes that the development of appropriate marketing models can improve ODGJ's technical skills and confidence. With the training and assistance provided, ODGJ not only succeeded in developing mushroom cultivation skills but also showed a significant increase in confidence. They feel more independent and can make a meaningful contribution to the family. This confidence increase supports the research goal of strengthening the psychological aspects and social empowerment of ODGJ through involvement in productive activities.





The research findings corroborate the third hypothesis, which states that family and local community support plays an important role in product marketing success. The family's involvement in caring for mushrooms and marketing products greatly determines the success of this venture. Supportive families make a significant contribution to the smooth running of operations and marketing, which directly impacts the program's success. This shows that social support is critical in driving marketing success and maintaining the sustainability of the mushroom house business.

Overall, the study's results support all the proposed hypotheses and the research objectives to develop a mushroom house package marketing strategy that can improve the economic independence, technical skills, and psychological well-being of ODGJ. The success of this program relies heavily on a comprehensive approach, including family and community support and the development of a marketing model appropriate to the needs and characteristics of ODGJ.

The results of this study are supported by various theories relevant to economic empowerment, psychological well-being, and marketing strategies for vulnerable groups such as ODGJ. The Social Capital theory put forward by Putnam (2000) explains the importance of social relationships and community networks in increasing economic and social participation. In the context of this study, the involvement of families and local communities was shown to play a key role in the marketing success of mushroom house packages. This social support not only helps in the treatment of mushrooms but also in marketing the product, which leads to an increase in the economic independence of ODGJ. In addition, the Behavioral Activation Theory developed focuses on the importance of individual involvement in productive activities to reduce symptoms of mental disorders and improve psychological well-being [25]. The findings of this study corroborate that ODGJ involved in mushroom cultivation reported increased self-confidence and decreased symptoms of anxiety and depression. This activity provides a sense of achievement and independence, according to the theory's principles for facilitating psychological recovery.

Kotler's Marketing Mix Theory (2017) is also relevant to supporting the marketing strategy of mushroom house packages. This research shows that direct and digital marketing approaches have effectively reached ODGJ and the wider community [26]. By combining easy-to-use products, affordable prices, and distribution that includes cooperation with health institutions and social media, this marketing model has succeeded in increasing sales of mushroom house packages and expanding market reach.

Thus, this study's findings confirm various theories underlying the concepts of ODGJ's economic empowerment, productive activity-based rehabilitation, and effective social marketing for vulnerable groups. Proper social and marketing support is an important factor in the program's success.

One of the unexpected findings in this study was the positive impact of ODGJ's involvement in mushroom package marketing on their changing perceptions of themselves and their role in their families and society. Although the study's main goal was to increase economic independence through mushroom cultivation, the findings showed that many ODGJ experienced a significant increase in their self-esteem, even more than expected [27]. Not only do they feel more productive, but they also report feelings of acceptance and value in families who were previously often marginalized by social stigma. This raises the possibility that productivity-based marketing—product marketing controlled by individuals traditionally considered vulnerable or underprivileged—has greater power than expected in changing society's view of them.

These findings provide the basis for proposing a new theory called the Social Empowerment Theory through Productive Marketing. This theory proposes that marketing is not only a tool to sell products but also a means to empower individuals through their involvement in the process of production and distribution of products, which directly affects their perception of themselves and their position in society. In the context of ODGJ, this theory could describe how marketing activities that involve them in productive endeavours can reduce stigma and increase their self-confidence [7]. These findings open up further possibilities to explore the relationship between economic empowerment and social status improvement in the context of vulnerable groups such as ODGJ.

**Comparison of Results with Findings of Previous Research:** The results of this study show that the marketing of mushroom house packages can significantly increase the economic independence and psychological well-being of ODGJ, which is in line with the findings of previous research. For example, research by showed that the involvement of ODGJ in gardening activities can increase confidence and reduce symptoms of depression, similar to the findings in this study that mushroom cultivation has a positive impact on the psychological well-being of ODGJ [27]. Both studies confirm that involvement in productive activities can have therapeutic effects, particularly in increasing feelings of confidence and reducing stress.

However, the findings of this study also complement and expand on previous findings that focused more on the impact of gardening activities. This study emphasizes the psychological benefits and provides strong evidence of the potential for economic improvement through productive activities. As found in a study by Suryani (2020) that highlighted the economic potential of oyster mushroom cultivation, the results show that ODGJ involved in mushroom



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cultivation can earn enough income to support the needs of their families [27]. This confirms that, besides having therapeutic value, mushroom cultivation also has high economic potential for this vulnerable group.

In addition, in terms of marketing strategies, the results of this study also support the social marketing theory that has been put forward by which shows that social marketing can help vulnerable groups access the market and improve their economic conditions[30]. The results of this study corroborate this statement by showing that mushroom house package marketing, which involves direct marketing and digital marketing, has succeeded in increasing sales and expanding market reach while providing training and support for ODGJ. This proves that social marketing not only serves to introduce products but also as an empowerment tool that directly impacts the economic conditions of ODGJ.

The results of this study are overall consistent with previous research that discussed economic empowerment and psychological well-being for vulnerable groups, especially People with Mental Disorders (ODGJ). Research by Patel et al. (2021) highlighting the positive impact of ODGJ's involvement in gardening activities on their mental health aligns with our findings that mushroom cultivation increases confidence and reduces symptoms of anxiety and depression. In addition, our findings showing an increase in the economic independence of ODGJ are also consistent with a previous study, which identified that oyster mushroom cultivation has high economic potential and is well accepted by the community.

Furthermore, this study also strengthens the results found in Mulyono's (2019) research on the effectiveness of social marketing in increasing market access for vulnerable groups. The marketing of mushroom house packages carried out in this study successfully reached ODGJ [24]. It expanded its market reach through collaboration with health institutions and digital platforms, which aligns with Mulyono's findings that emphasize the importance of social marketing to empower vulnerable groups.

Overall, the results of this study do not contradict previous research but provide additional evidence that supports theories related to the empowerment of ODGJ through productive activities and social marketing. These findings enrich the existing literature by adding new perspectives on the economic and psychological benefits of mushroom cultivation for ODGJ and affirming the importance of a holistic approach involving effective social and marketing support.

The results of this study make a significant contribution to the development of theories and conceptual frameworks related to economic empowerment and psychological rehabilitation for vulnerable groups, especially People with Mental Disorders (ODGJ). These findings led to the development of the Social Empowerment Theory through Productive Marketing, which proposes that product marketing, particularly products involving individuals who are considered vulnerable, not only serves as a means to generate income but also as a tool to change social perceptions and increase the confidence of those individuals. This theory introduces the concept that involvement in productivity-based marketing, as seen in mushroom house package marketing, can have a wider therapeutic effect than previously thought. Productive activities controlled by ODGJ individuals give them an active role in the family and society while reducing social stigma.

In addition, the results of this study strengthen and expand the existing conceptual framework regarding *Social Capital* and *Behavioral Activation*. The involvement of families and communities in supporting mushroom cultivation shows that social capital—including social connections and community support—plays an important role in the success of economic empowerment. This approach opens up opportunities to develop more integrated intervention models, focusing on medical or economic aspects and paying attention to the social and psychological dimensions of ODGJ rehabilitation efforts. By combining elements of social marketing, social capital, and productivity-based empowerment, the results of this study provide a stronger foundation for developing policies that support the sustainability of economic independence and the psychological well-being of ODGJ in the community.

The findings of this study have the potential to have a significant practical impact on economic empowerment and rehabilitation policies for People with Mental Disorders (ODGJ). One of the key practical impacts is the need to design more inclusive agribusiness-based economic empowerment programs, such as mushroom cultivation, that can be widely applied to support ODGJ in achieving economic independence. Programs like this can be encouraged by government policies that encourage the development of community-based micro-enterprises by providing training, access to capital, and marketing support. Governments and social institutions can integrate mushroom cultivation business models into ODGJ rehabilitation programs so that they not only derive psychological benefits from engaging in productive activities but also obtain a source of income that can improve the well-being of their families.

In addition, policies related to social marketing for vulnerable groups can be further developed based on the findings of this study. Governments and non-governmental organizations (NGOs) can strengthen marketing programs that connect ODGJs with local markets and digital platforms to help them market the products they produce. This can encourage the creation of a broader market for the products produced by ODGJ and reduce the social stigma against







them. This policy can also involve collaboration between the public and private sectors by establishing partnerships with local stores or companies willing to help distribute ODGJ products.

In terms of mental health policy, the results of this study can influence the development of a productive activity-based rehabilitation model that integrates economic aspects in the psychological recovery process of ODGJ. With a program that not only focuses on medical treatment but also empowers ODGJ through entrepreneurial activities, a more holistic and sustainable rehabilitation approach can be created. Governments can introduce policies that better support the active participation of ODGJ in productive activities, improving their quality of life and facilitating greater social inclusion.

Although this study provides valuable insights into mushroom house package marketing for ODGJ, some methodological limitations and data collection affect the results obtained. One of the main limitations is the **reliance** on collecting qualitative data through interviews and surveys, which may present subjective biases from participants. For example, some ODGJ involved in the study may feel pressured to give more positive answers in surveys or interviews, especially regarding the psychological and economic impact, because they expect further research support. This can affect the accuracy of the data, given that their responses may reflect more of the desire to please the researcher than the reality experienced.

In addition, the lack of a representative sample can also be a limiting factor in the generalization of research results. Given the limited number of ODGJ involved in this study, the results may not fully represent the experience of the entire ODGJ population in Indonesia. This may affect the external validity of the findings, as they apply only to the small group involved, not to the entire ODGJ group.

Other limitations are related to access to technology and digital marketing in some areas. Although most of the ODGJ involved can access and utilize digital platforms for marketing, some areas and patient families may not have adequate internet access. This limits the effectiveness of the digital marketing strategy implemented and can affect the overall marketing success of the Mushroom House package [3]. These constraints point to the need for a more diverse marketing approach, including local marketing and community support, which this study has not fully covered.

Overall, although this study makes a valuable contribution, these methodological limitations need to be considered in interpreting the results and the proposed policy recommendations.

### 3.3. Suggestions or Recommendations for Further Research

Based on the findings and limitations of this study, several suggestions and recommendations can be considered for future research. First, increased sample size and location diversity are critical to ensure more representative and generalizable results for the ODGJ population. Further research should involve more ODGJ from various regions in Indonesia, including those living in areas with limited access to technology and rehabilitation facilities. This will allow researchers to get a broader picture of the challenges and opportunities faced by ODGJ in running agribusiness-based businesses such as mushroom cultivation.

Second, further research on the long-term influence of mushroom cultivation activities on the psychological and economic well-being of ODGJ needs to be conducted. Most of the findings in this study are short-term, so follow-up research measuring impacts over a more extended period will provide deeper insights into the sustainability of economic independence and the improvement of the mental health of ODGJ. In addition, a more in-depth evaluation of the role of family and community support in the success of mushroom cultivation efforts can provide clearer information about the external factors that affect the program's success.

In addition, developing and refining marketing models can be an important focus for further research. The study only tested direct and digital marketing, but in some areas that do not have internet access, local or community-based marketing may be a more effective alternative. Therefore, it is important to develop a more diverse and inclusive marketing strategy and identify marketing methods that can be reached by ODGJ across the region, including those in areas with limited access to technology.

Expanding the sample, deepening understanding of the long-term impact, and developing more inclusive marketing models, further research can contribute to strengthening economic empowerment and rehabilitation policies for ODGJ.

## 4. CONCLUSION

For further research development, several inputs can enrich the understanding of economic empowerment for People with Mental Disorders (ODGJ) through productive activities. First, more in-depth research on the diversification of products produced from mushroom cultivation could be an important step. Developing products derived from mushrooms, such as crispy mushrooms, dried mushrooms, or canned mushrooms, will not only increase the selling value but also expand the market and extend the shelf life of products. Further research can explore the



potential of processed mushroom products in supporting the economic sustainability of ODGJ. It is also important to deepen the psychological factors that underlie the success or failure of ODGJ in running an agribusiness-based business. The subsequent research can focus on an in-depth analysis related to the motivations, psychological barriers, and mental recovery patterns of ODGJ involved in mushroom cultivation. Understanding these factors will allow researchers to design more effective interventions supporting ODGJ.

Future research can focus on experiments with a more holistic marketing approach involving technology and local marketing. For example, developing a dedicated digital app or platform for ODGJ that focuses on marketing their products with easily accessible technical training can open up great opportunities for those in areas with limited internet access. This more diverse approach will allow more effective product distribution and expand market reach.

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