

# THE ROLE OF GENDER OF UMKM OWNERS IN THE RELATIONSHIP BETWEEN ENVIRONMENTAL SUSTAINABILITY, OPEN INNOVATION, AND UMKM INNOVATION PERFORMANCE

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**Abstract** — Micro, Small and Medium Enterprise Background (UMKM) plays an important role in driving environmental sustainability through sustainable business innovation. Gender, as a component that affects organizational dynamics, can also contribute to the changes made by UMKM to support environmentally friendly business practices. However, there is not much research specifically investigating how gender plays a role in driving UMKM innovation to maintain environmental sustainability. This study uses relevant literature to understand how gender factors influence innovative practices and environmental sustainability in UMKM business. By analyzing the literature in depth, this study aims to find patterns of the relationship between gender, business innovation, and sustainability of the environment in the context of UMKM. Therefore, this article is expected to provide a more in-depth insight into how UMKM This research uses the type of meta-analysis research, in which research findings from various researchers are combined. Research results can be accessed by some researchers using Google Scholar or Google Scientist searches to find out how much impact the application of research models, methods, or strategies has. With a sample of literature 10 years before 2024.

**Keywords** — Innovation change, Gender, environmental sustainability, MSMEs sustainability

## I. INTRODUCTION

Theory of Planned Behavior (TPB) is a psychological structure that has been widely used to understand and predict various types of behavior. TPB considers control beliefs and perceived behavioral control, making it a powerful platform for analyzing how attitudes, subjective norms, and perceived behavioral control influence individual intentions and behaviors. Cristopher, et.al (2001)

TPB can play a vital role in understanding how gender influences environmental conservation efforts in the context of business and sustainability. Businesses require continuous innovation and entrepreneurship to survive, and incorporating theories such as TPB can provide insight into how gender dynamics influence the adoption of sustainable practices. Gender and an individual's perspective on sustainability can influence the decision-making process regarding sustainability initiatives (Lüdeke- Freund, 2019). Therefore, it is crucial to understand these aspects when creating a useful plan for a sustainable business model.

In addition, a planned design is needed to meet the sustainability goals of a business model. As shown by research focusing on sustainable business models and innovative ideas in improving sustainability, innovation plays a vital role in driving business sustainability. Businesses can achieve competitive advantage and long-term success by incorporating innovative practices and sustainable principles. (Bocken et al., 2019; Wongwilai et al., 2022)

Therefore, the TPB provides a useful basis for examining how gender influences environmental conservation efforts in sustainable business practices. Businesses can improve their sustainability efforts, increase their positive impact on the environment, and ensure long-term success in a rapidly changing business environment by leveraging TPB insights and incorporating innovative strategies.

In the context of Micro, Small, and Medium Enterprises (MSMEs), waste management into crafts has an important background. As a result, sustainability management is a major challenge for MSMEs. Engaging in practices related to sustainable development generates many benefits for companies, strengthening their competitive advantage. To achieve sustainable development, companies must redesign products and adapt new products, using technology for processes. (Nidumolu et al., 2009).

Small and medium enterprises (MSMEs) have a major role in the Indonesian economy, one of which is increasing employment opportunities and absorption of labor in Indonesia. The role of MSMEs can contribute to the 17 SDG goals as explained by UN DESA (Department of Economic and Social Affairs) (2020)— Report on MSMEs and the Sustainable Development Goals.

Based on data released by the Ministry of Cooperatives and SMEs (2021), it is explained that the number of MSMEs in Indonesia has reached 64.2 million businesses with a contribution to the Gross Domestic Product of 61.07% or IDR 8,574 trillion. In addition, it was explained by the Ministry of Finance (2021) that MSMEs are able to absorb 97% of the total workforce, and MSMEs can attract investment of 60.42%. This explains the vital role of MSMEs in the economy in Indonesia, so it is natural that MSMEs need special attention. There is data explained by the Central Statistics Agency in 2020, that around 69.02% of MSMEs experienced difficulties in capital during the COVID-19 pandemic. This data is in line with the complaint report to the Ministry of Cooperatives and SMEs in October 2020, that 39.22% of MSMEs experienced capital constraints during the COVID-19 pandemic, quoted from the Ministry of Finance (2021). As mentioned by Elkington as the three bottom line theory, economic and social values will be a priority on par with environmental values when the sustainable growth agenda (SDGs) is achieved in 2030. According to (Akkus and Çaliyurt, 2022), entrepreneurs contribute to the implementation of the SDGs because their roles vary in social and environmental goals. Climate change causes droughts, heat waves, tidal waves, floods, and other natural disasters that endanger human life. Balaguera-Quintero et al., 2022) The release of gases such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O causes greenhouse gas emissions, which cause ozone depletion and trigger global warming. The increase in the earth's temperature causes a decline in the quality of the global ecosystem, which disrupts human welfare.

Due to the large impact of MSMEs on economic, social and environmental values, this meta-analysis study examines several research results and literature reviews that support and contribute to these values based on the grand theory of behavioral tendencies (Theory of Planned Behavior). So that it can contribute to further knowledge studies that also focus on similar discussion topics

## II. METHOD

Meta-analysis research uses the process of analyzing empirical data from previous studies. The results of the study can be compared, such as the mean, correlation coefficient (or correlation coefficient), and likelihood ratio, which are used to calculate the magnitude of the effect, which is used to create an aggregate. Meta-analysis research methods can include the following in research on the Theory of Planned Behavior (TPB), innovation, environmental sustainability and sustainability of Micro, Small and Medium Enterprises (MSMEs):

1. Identification of Research Topics: limitations of the research topic. This can include the TPB variables to be studied, innovation in MSMEs, environmental sustainability and factors that influence the sustainability of MSMEs.
2. Literature Search: literature relevant to the research topic meets the criteria between 2019-2024; which discusses the theory of planned behavior; and which discusses environmental sustainability and business sustainability
3. Data Extraction: collecting data from each relevant study to be used in the meta-analysis. This will include data used is MSMEs that focus on environmental preservation and business sustainability

4. Data Analysis: The results of the selected studies are combined with statistical methods to calculate the effects of the relationship between TPB variables, innovation, and the sustainability of small and medium enterprises (MSMEs).
5. Evaluation of Results: Interpret the results of the meta-analysis to reach conclusions about the relationship between TPB, innovation, and MSME sustainability.

The results of several researchers' studies can be accessed using Google Scholar or Google Scholar searches. Data is collected and then compared, combined and concluded or drawn a common thread from several studies that have been published and which discuss the topics of TPB, innovation, environmental sustainability and MSME sustainability further.

### III. RESULT AND DISCUSSION

In an era of ever-changing business, it is important for micro, small, and medium enterprises (MSMEs) to consider things like the Theory of Planned Behavior (TPB), innovation, environmental sustainability, and business sustainability. The purpose of this study is to understand how TPB, innovation, and MSME sustainability efforts relate to each other to support sustainable and environmentally friendly growth. By understanding this relationship, it is hoped that MSMEs can improve their innovative performance while paying attention to their impact on the environment and their business sustainability. Based on data in 2023, which was taken online in June 2024 regarding the achievement of waste management performance, the following is obtained:



## CAPAIAN KINERJA PENGELOLAAN SAMPAH

Capaian Kinerja Pengelolaan Sampah adalah Capaian Pengurangan dan Penanganan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga.

Data capaian dibawah ini adalah hasil dari penginputan data yang dilakukan oleh 209 Kabupaten/kota se-Indonesia pada tahun 2023

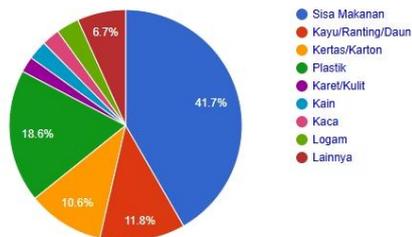




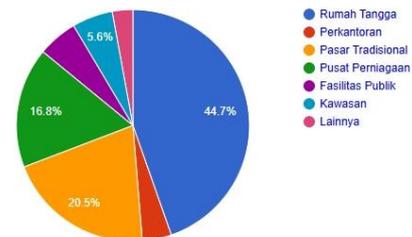
## GRAFIK KOMPOSISI SAMPAH

Grafik Komposisi Sampah terbagi 2 yaitu Grafik Komposisi Sampah berdasarkan Jenis Sampah dan Grafik Komposisi Sampah berdasarkan Sumber Sampah. Grafik Komposisi Sampah dibawah ini adalah Tahun 2023.

Komposisi Sampah Berdasarkan Jenis Sampah



Komposisi Sampah Berdasarkan Sumber Sampah



Based on waste management performance data by SIPSN, it can be concluded empirically that the application of the Theory of Planned Behavior (TPB) dimension can be used as a basis for encouraging behavioral intentions, in this study the intention to become an environmentally friendly entrepreneur and commitment to making changes in innovation that is oriented towards environmental sustainability can contribute to reducing waste so that it can help reduce global warming in order to achieve long-term business sustainability. With the support of strong statistical data and also similar previous research, this article shows that TPB can influence the behavior of MSMEs in adopting environmentally friendly innovations, which in turn can improve the overall sustainability performance of MSMEs. and also includes contributing to government programs on waste management and preserving the environment, including:



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Bentuk/Jenis	Nomor	Tentang
Undang-Undang	UU No.18 Tahun 2008	Pengelolaan Sampah
Peraturan Pemerintah	PP No. 81 Tahun 2012	Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga
Peraturan Pemerintah	PP 27 Tahun 2020	Pengelolaan Sampah Spesifik
Peraturan Presiden	Perpres No. 97 Tahun 2017	Kebijakan dan Strategi Nasional Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga
Peraturan Presiden	Perpres No. 83 Tahun 2018 ( batang tubuh )	Penanganan Sampah Laut ( batang tubuh )
Peraturan Presiden	Perpres No. 83 Tahun 2018 ( Lampiran )	Penanganan Sampah Laut ( Lampiran )
Peraturan Menteri	Permen LH No. 13 Tahun 2012	Pedoman Pelaksanaan Reduce, Reuse dan Recycle Melalui Bank Sampah
Peraturan Menteri	P.59/MENLHK/SETJEN/KUM.1/7/2016	Baku Mutu Lindi Bagi Usaha dan atau Kegiatan Tempat Pemrosesan Akhir
Peraturan Menteri	P.10/MENLHK/SETJEN/PLB.0/4/2018	Pedoman Penyusunan Kebijakan dan Strategi Daerah Pengelolaan Sampah Rumah Tangga dan Sampah Sejenis Sampah Rumah Tangga
Peraturan Menteri	P.75/MENLHK/SETJEN/KUM.1/10/2019	Peta Jalan Pengurangan Sampah oleh Produsen

Of the several policies, one of them is the management of waste banks that can be continued or utilized by the community in general and also by MSME owners who can see opportunities and chances in utilizing waste into compost or even processed crafts that can have high value so that they can increase the family economy.

## VI. CONCLUSIONS

In this article, the Theory of Planned Behavior (TPB) is used as a framework to drive innovation change in micro, small, and medium enterprises (MSMEs) that focus on environmental sustainability to achieve business sustainability. By understanding and implementing TPB, MSMEs can influence the behavior of their employees and business owners to adopt environmentally friendly innovations, which can help MSMEs to improve their innovative performance while preserving the environment.

In the article there are some limitations of generalization because this study focuses on a specific sample or area, the results may not be applicable to a wider population of MSMEs. Some issues may arise from the methods used to collect data; this may affect the validity of the findings. Some of these issues include problems with primary data collection or the availability of secondary data. The measurement of variables used in the study may also have limitations. For example, it is difficult to accurately measure abstract constructs such as environmental sustainability or environmental sustainability orientation or may not include contextual factors or additional variables that may affect the relationship between Theory of Planned Behavior, innovation, and MSME sustainability.

Additional articles or variables that may influence the relationship between Theory of Planned Behavior, innovation, and sustainability of small and medium enterprises (SMEs) include environmental regulations, environmental awareness, and stakeholder pressures related to sustainability can provide additional insights into how these factors influence the relationship between SDGs, innovation, and sustainability of SMEs. such as the use of new technologies, integration of green technologies, or the use of environmentally friendly technologies, we can better understand how technological factors influence innovation. Considering social variables such as social support, business networks, or cooperation with external parties can help you understand how these social factors interact with SDGs.

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