



Investigating the Level of Acceptability of Paper Packaging in Medium Businesses

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Abstract : In response to growing environmental concerns, Municipality of Apalit Pampanga, Philippines, became the first in the province to implement "The Plastic Bag Regulation," banning plastic use in favor of sustainable alternatives. This study aimed to assess the level of acceptance of paper packaging among 30 medium-sized businesses following the plastic ban. Using a quantitative approach and convenience sampling, data were collected and analyzed to gauge business attitudes toward adopting paper packaging. The results indicated a high level of acceptance, with minor variations in perceptions across different business sectors. Encouraged by these positive findings, an action plan was developed to further promote the use of paper packaging and support eco-friendly practices. The study highlights the successful shift toward more sustainable business operations and provides a roadmap for enhancing environmental responsibility in the community. The findings suggest that businesses are increasingly receptive to green initiatives, which could play a significant role in advancing waste management efforts and environmental sustainability.

Index-terms - Paper Packaging, Acceptability, Medium Businesses.

I. INTRODUCTION

In recent years, plastic has been widely used for packaging goods across various industries, including malls, supermarkets, stalls, public markets, and small businesses. As a result, plastic has become a significant contributor to annual waste. According to Tiseo (2023), global plastic production reaches up to 300 million metric tons per year, exacerbating the proliferation of plastic waste. The Philippines, heavily reliant on single-use plastic, has earned the label "sachet economy" due to the staggering consumption of 163 million sachets daily (The World Bank, 2021). This reliance on plastic has worsened marine pollution, with 20% of the country's 2.7 million tons of annual plastic waste likely ending up in the ocean. The Philippines' struggle with unsustainable plastic use highlights the urgent need for better waste management infrastructure and sustainable alternatives.

Transitioning to eco-friendly packaging materials is essential to mitigate the growing plastic pollution crisis. Packaging materials, such as paper, plastic, cardboard, and wood, serve to protect goods, particularly food, from contaminants while maintaining freshness and nutritional value. However, not all packaging materials are environmentally suitable. Packaging not only protects and stores goods but also plays a key role in attracting consumers, reflecting the brand's identity and values (Ivankovic et al., 2017; Chukwu et al., 2023).

Small, micro, and medium-sized enterprises (MSMEs) are vital to the Philippine economy, offering job opportunities and contributing to economic growth. According to the Official Gazette of the Republic of the Philippines, MSMEs are supported by policies such as Republic Act No. 6977 and Republic Act No. 9501, which promote entrepreneurship and business development. However, MSME owners, particularly in micro-small businesses, often prefer using plastic due to its low cost, durability, and convenience. On the other hand, paper packaging, though recyclable, is seen as more expensive and less durable.

Apalit, a town in Pampanga, led the province by implementing the "Plastic Bag Regulation" through Ordinance No. 1 Series 2013-2014, which prohibits the use and sale of plastic. This ordinance aims to reduce waste and address environmental concerns. The transition to paper packaging was quickly embraced by the town's MSMEs, including retail stores and fast-food chains.

This study aims to evaluate the level of acceptability of paper packaging among medium enterprises in Apalit, Pampanga, and assess the effectiveness of the municipal regulation. The research seeks to identify the measures taken by businesses to comply with the ordinance and explore the overall acceptance of this shift toward sustainable packaging.

NEED OF THE STUDY.

The ability of society and enterprises to thrive is inherently tied to the well-being of the environment. As such, it is crucial for businesses to take proactive measures to preserve and protect the environment in order to mitigate the growing global crises related to environmental degradation. Packaging, in particular, is a key factor that can have a significant negative impact on the environment at every stage of its life cycle—from the extraction of raw materials, through manufacturing, transportation, consumption, and

ultimately disposal. Given these implications, it is essential to explore the acceptability of paper bags as an alternative packaging solution among medium-sized businesses.

The importance of this study lies in its potential to provide accurate, actionable information on the adoption of paper bags for packaging goods within medium-sized enterprises. By examining the level of acceptance, the study can highlight key barriers and drivers in adopting eco-friendly packaging solutions.

The findings from this study will be of significant value to the following groups and institutions:

Business Owners and Managers: Understanding the advantages and challenges associated with paper packaging can help business owners make informed decisions about transitioning to more sustainable practices.

Local Government Units (LGUs): The study will assist LGUs in evaluating the effectiveness of existing policies like the "Plastic Bag Regulation" and guide the development of future regulations aimed at promoting sustainability.

Environmental Advocates and Non-governmental Organizations (NGOs): The findings will provide valuable insights into how businesses are responding to environmental regulations, supporting efforts to reduce plastic waste and promote eco-friendly packaging.

Consumers: The study will contribute to raising awareness among consumers about the environmental impact of packaging, helping them make more informed choices that align with sustainability goals.

Academia and Researchers: This study will add to the body of research on sustainable packaging practices, offering valuable data for future studies on packaging materials and their environmental implications.

3.1 Population and Sample

KSE-100 index is an index of 100 companies selected from 580 companies on the basis of sector leading and market capitalization. It represents almost 80% weight of the total market capitalization of KSE. It reflects different sector company's performance and productivity. It is the performance indicator or benchmark of all listed companies of KSE. So it can be regarded as universe of the study. Non-financial firms listed at KSE-100 Index (74 companies according to the page of KSE visited on 20.5.2015) are treated as universe of the study and the study have selected sample from these companies.

The study comprised of non-financial companies listed at KSE-100 Index and 30 actively traded companies are selected on the bases of market capitalization. And 2015 is taken as base year for KSE-100 index.

3.2 Data and Sources of Data

For this study secondary data has been collected. From the website of KSE the monthly stock prices for the sample firms are obtained from Jan 2010 to Dec 2014. And from the website of SBP the data for the macroeconomic variables are collected for the period of five years. The time series monthly data is collected on stock prices for sample firms and relative macroeconomic variables for the period of 5 years. The data collection period is ranging from January 2010 to Dec 2014. Monthly prices of KSE - 100 Index is taken from yahoo finance.

3.3 Theoretical framework

The Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers' 1962 theory is one of the oldest in social science. Its objective, as it first emerged in the area of communication, is to describe the gradual process by which an idea or product gathers momentum and subtly spreads through a specific demographic or social structure. The ultimate result of this subtle dissemination is the incorporation of an innovative idea, practice, or product by individuals within that social system. (LaMorte, 2022)

The Diffusion of Innovations (DOI) theory, stated in the study, it provides a framework highlighting the significance of beliefs regarding innovation effectiveness and the influence of prior adopters in the diffusion process. In the context of studying the level of acceptability of the utilization of paper packaging in medium enterprises in Apalit, Pampanga, where a Plastic-Ban ordinance is in place, this theory becomes particularly relevant. The belief in the efficacy of paper packaging as an eco-friendly alternative is pivotal in influencing its adoption. The theory underscores the impact of early adopters, and in Apalit, businesses successfully transitioning to paper packaging act as influential precedents, potentially encouraging others to follow suit. Additionally, the theory aligns with the local policy context, suggesting that policy decisions, such as the Plastic-Ban ordinance, can drive the adoption of innovations. If local businesses observe successful implementations of paper packaging as a response to the Plastic-Ban, it could stimulate broader adoption. The DOI theory's acknowledgment of the role of federal attention and funding mechanisms further resonates with the potential acceleration of policy diffusion if the issue gains prominence at higher governmental levels. Lastly, the theory's proposition that local successes can impact federal policies suggests that Apalit shift to paper packaging, if proven successful, may influence environmental practices at higher governmental tiers, reinforcing the adoption of similar measures. In essence, the DOI theory provides valuable insights into the dynamics of innovation adoption in Apalit, particularly concerning the transition to paper packaging in response to local policies and environmental goals. The paradigm shows the level of acceptability of medium businesses in packaging goods. The left frame represents input which are the variables and the statement of the problem. While the middle frame represents the process of the data gathering and data analysis. The left frame shows the output which is the Proposed Action Plan Regarding the Acceptability of Utilization of Paper Packaging among Medium Enterprises in Apalit, Pampanga.

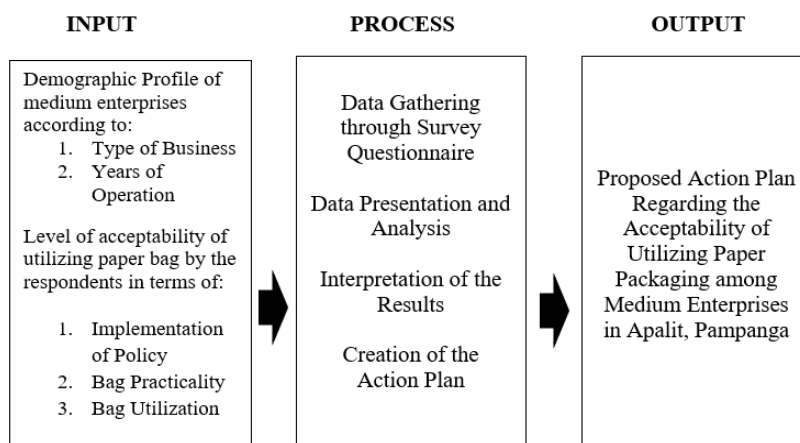


Figure 1: Conceptual Model of the Study

RESEARCH METHODOLOGY

A quantitative research approach was used in this study to attain greater understanding of the phenomenon through collecting and analyzing numerical data. This research study made use of descriptive quantitative research for its research method. Through this method, the level of acceptability of selected medium enterprises in Apalit, Pampanga in utilizing paper bag as packaging of goods was analyzed. The researchers adopted survey questionnaire in gathering and collecting data and information from a large volume of respondents cited on the study under Term Paper Warehouse entitled “Levels of Acceptability of Using Paper Bags by Selected Vendors in the Market of Sta. Rosa, Laguna”. Using questionnaires, the answers of the respondents were analyzed to deeper understand their perspectives in the policy of the town.

The research questionnaire targeted managers or owners of medium-sized enterprises in Apalit, Pampanga, utilizing convenience sampling for respondent selection based on geographical proximity, availability, and willingness. The criteria for medium enterprises were set with total assets ranging from Php15,000,0001 to Php100,000,000. Researchers obtained data on medium businesses from the licensure office in Apalit, revealing 64 registered medium businesses in 2023. Ethical standards were maintained by seeking permission, and 30 out of the 64 enterprises participated in the study, each responding to the same questionnaire.

3.1 Population and Sample

The research questionnaire will be designed for the managers or owners of medium-sized enterprises in Apalit, Pampanga. The study's respondents were selected through convenience sampling. This can be due to geographical closeness, availability at a particular time, or willingness of the respondents. The researchers will simply select respondents who are "convenient" to the study. Respondents may be recruited directly by asking managers or owners who are present for participating in the study.

Considered the purpose of choosing the respondents, the researchers employed the requirements for medium enterprises, specified as those with total assets ranging from Php15,000,0001 to Php100,000,000. The researchers also inquired to the license office in the town of Apalit, Pampanga, providing the data on medium businesses. According to the records from the municipality, there were 64 registered medium businesses from various industries. The study's respondents will be all registered medium-sized enterprises; each respondent answered the same questionnaire. However, since the researchers adhere to ethical standards, only business establishments that provide permission will be asked to complete the questionnaire.

3.2 Data and Sources of Data

The research aimed to assess the acceptability of paper packaging among medium-sized businesses in Apalit, Pampanga, by collecting data from the local licensure office. In 2023, records indicated that there were 64 medium-sized businesses registered in the area. This information served as the foundation for the study, providing a clear picture of the medium business landscape in Apalit.

To ensure that the study adhered to ethical standards, the researchers took the necessary steps to obtain formal permission for data collection. This involved reaching out to local authorities and securing approval to engage with business owners. By following these protocols, the researchers ensured that all participants were informed, provided their consent, and were treated with respect throughout the process.

Out of the 64 registered medium-sized businesses, 30 voluntarily agreed to participate in the study. These businesses were carefully selected using a purposive sampling method to ensure that they met the criteria relevant to the research objectives. Each of the 30 businesses was asked to respond to a standardized questionnaire, which was designed to evaluate their views and practices regarding the use of paper packaging.

By ensuring that all participants answered the same set of questions, the researchers were able to collect consistent and comparable data, which is essential for drawing meaningful conclusions. The participation of 30 businesses, representing nearly half of the registered medium enterprises, provided a solid sample for understanding the broader trends and attitudes toward sustainable packaging in the community. The findings from this group of businesses can offer valuable insights into the potential for wider adoption of eco-friendly packaging practices in the region.

3.3 Statistical tools and econometric models

The researcher sought assistance from a statistician for selecting appropriate statistical methods and analyzing collected data. The study utilized various statistical methods to organize and respond to the research question. After data collection through a questionnaire, the study employed the following statistical methods:

Percentage. It demonstrates how the component parts relate to the total. By multiplying by 100, researchers have utilized this to convert a percentage to a percent. The equation would be:

$$\% = fn \times 100$$

Where:

% = percentage n = total respondents f = frequency

Weighted Mean. The frequency distribution's central tendency and the respondents' ratings on the questionnaire were both measured using the weighted mean. The equation would be:

$$X = \frac{\sum fx}{N}$$

Where:

N = Total number of respondents; X = Weighted Mean; F = Frequency; x = Scale Rate

Arbitrary scale. By giving linguistic interpretation to the specified weight, the extent of their responses to the factors is determined. The four-point scale given below will be used to interpret the derived mean values:

Table 1: Arbitrary Scale

Scale Value	Range Interval	VERBAL DESCRIPTION
4	3.25-4.00	Highly Acceptable
3	2.50-3.24	Acceptable
2	1.74-2.49	Unacceptable
1	1.00-1.73	Highly Unacceptable

Pearson correlation coefficient (r). It is a widely used method for quantifying a linear correlation between two variables. It assigns a value between -1 and 1, indicating both the strength and direction of the association between the two variables. Essentially, when one variable experience a change, the other variable tends to change in a corresponding direction. The equation would be:

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

IV. RESULTS AND DISCUSSION

1.1. Statement of the Problem 1: Demographic Profile

Table 2: Type of Business

Type of Business	Frequenc y	PERCE NT (%)
Home and Appliance Store	1	3.33%
Construction Tools Store	1	3.33%
Logistic	2	6.67%
Casual Wear Retail Brand	3	10.00
Pharmacy	3	10.00
Food Service	4	13.33
Grocery	16	53.33
Total	30	100.00

The profile of businesses in Apalit, Pampanga, based on the type of business, revealed a diverse market landscape. The highest percentage of businesses belonged to the Grocery category, representing 53.33% of the total businesses surveyed, indicating a significant presence of these establishments in the sample. On the other hand, the lowest percentage was tied between Home and Appliance Store and Construction Tools Store, each accounting for 3.33% of the businesses, reflecting their limited representation in the study. This distribution highlighted the dominance of Grocery stores and suggested that the findings and recommendations might have a more significant impact on this business type. The diversity of business types, including courier services, fast-food chains, and supermarkets, highlighted the multifaceted nature of the local economy. Such diversity can be valuable for both consumers and entrepreneurs, as it offers a range of products and services to meet various demands within the community. The profile of businesses in Apalit, Pampanga, based on the type of business, revealed a diverse market landscape.

Table 3: Years of Operation

<i>Years of Operation</i>	<i>Frequency</i>	<i>PERCENT</i>
1-3 years	11	36.67%
4-6 years	10	33.33%
7-9 years	4	13.33%
10 years above	5	16.67%
Total	30	100.00%

The data on the years of operation for businesses provides insights into the longevity and stability of the local business landscape in the area studied. Most businesses surveyed in the study have been operating for relatively short periods. Specifically, 36.67% of the businesses have been in operation for 1-3 years, while another 33.33% have been operating for 4-6 years. This indicates that there is a significant presence of relatively new businesses in the area. This could imply that the local business environment might be conducive to new ventures, possibly due to demand for new products or services, or a dynamic entrepreneurial spirit. Furthermore, 13.33% of businesses has been in operation for 7-9 years, and 16.67% has been in business for 10 years or more. These percentages suggested that a substantial portion of businesses in the area have managed to establish themselves and achieve a level of longevity, which could indicate a stable and competitive business environment.

1.2. Statement of the Problem 2: Level of Acceptability of Utilizing Paper Packing.

Table 3: Implementation of Policy

<i>Implementati on of Policy</i>	<i>Mean</i>	<i>SD</i>
1	A major help in community to avoid flooding.	3.93
2	Keep the community aware of the need to protect and commerce in the city.	3.83
3	Influence the flow of business in promoting the product and commerce in the city.	3.77
4	Making community life better for everyone.	3.80
5	A steppingstone for the local government to promote or create new ordinances related to the municipality's environmental issue.	3.77
6	Increased tree-cutting to produce paper bags.	3.73
OVERALL	3.81	0.22

Statement Number 1, with a mean score of 3.93 and a standard deviation of 0.25, represents the highest level of acceptability among the selected medium-sized businesses in Apalit, Pampanga, regarding the implementation of the policy to utilize paper bags in packaging goods. This statement highlights the significant positive impact of using paper bags as it helps the community avoid flooding. The high mean score indicates that businesses in the area recognize the importance of this policy and believe that it contributes significantly to the welfare of the community.

On the other hand, Statement Number 6 has the lowest mean score of 3.73 and a slightly higher standard deviation of 0.45, which suggests a slightly more varied opinion among respondents. This statement discusses the potential downside of increased tree-cutting to produce paper bags. While it is still rated as "Highly Acceptable," the lower mean and higher standard deviation indicate that some businesses may have concerns about the environmental impact of the policy. Despite this, the overall mean for all statements is 3.81 with a low standard deviation of 0.22, indicates that, on average, the selected medium-sized businesses in Apalit, Pampanga, are highly accepting of the policy's implementation, with only minor variations in their level of acceptance across different aspects of the policy's impact.

According to Akenji (2020), the Philippines is among the top 20 contributors to global marine trash. Additionally, significant sources of marine trash come from Africa and Latin America. This means that the Asia-Pacific region is a significant contributor to the problem of plastic pollution in our oceans. In response to growing concerns about climate change, the environment, resource use, and raw materials, achieving sustainable development is a critical goal. Wandosell et.al. (2021) claimed that one effective way to address these issues is by promoting green packaging, which involves using environmentally friendly materials and package designs. This study revealed that consumers are genuinely concerned about environmental issues, and their decisions to purchase products with green packaging are influenced by several factors. These factors include the design of the packaging, the type of materials used (whether they are biodegradable or recyclable), and even the country of origin of the products.

Likewise, Dupa et al. (2021) study discussed that businesses in Davao Oriental are aware of the rules about single-use plastics and are happy to follow them as a positive step by the local government. They believe that these rules will not only benefit their businesses but also the wider community and the environment. Vendors are ready to prioritize the environment over convenience and are open to using reusable bags, bottles, and containers instead of single-use plastics. They see this policy as encouraging

cleanliness. Additionally, these businesses are focused on getting results, showing their dedication to and support for the proposed law as a concrete way of endorsing and complying with it.

Table 4: Bag Practicality

<i>Bag Practicality</i>	<i>Mean</i>	<i>SD</i>
1	It is easy to handle and store.	3.67
2	It can carry a lot of goods.	3.50
3	To look at the external appearance.	3.63
4	It can be used as an instrument for advertising.	3.63
5	It is useful and recyclable all the time.	3.77
6	It's easy to determine how long it will last.	2.87
OVERALL	3.51	0.24

Statement Number 5, with a mean score of 3.77 and a standard deviation of 0.43, represents the highest level of acceptability among the selected medium-sized businesses in Apalit, Pampanga, when it comes to the practicality of utilizing paper bags in packaging goods. This statement emphasizes the sustainability aspect of paper bags, always highlighting their usefulness and recyclability. The high mean score indicates that businesses in the area highly value the practicality and eco-friendliness of paper bags as a packaging option.

Statement Number 6, with the lowest mean score of 2.87 and a relatively high standard deviation of 0.82, suggests a lower level of acceptability among respondents when it comes to the practicality of determining how long paper bags will last. The "Acceptable" rating coupled with the high standard deviation indicates that there is a significant variation in opinions among the surveyed businesses about the durability and longevity of paper bags. Despite this, the overall mean for all statements related to bag practicality is 3.51 with a moderate standard deviation of 0.24, indicating that, on average, the selected medium-sized businesses in Apalit, Pampanga, find paper bags to be highly practical for their packaging needs, with only minor variations in their perceptions of different aspects of practicality.

As paper is the predominant material employed in these packages, it typically does not last long, mainly because it lacks durability, especially when it encounters moisture. To make paper bags more environmentally friendly compared to the standard plastic HDPE bags, a single paper bag must be used multiple times. Ideally, it should be used at least four times or more. Nonetheless, based on business owners achieving this is difficult since paper bags lack strength and tend to lose their durability when exposed to moisture (Tripathi et al., 2023).

Table 5: Bag Utilization

<i>Bag Utilization</i>	<i>Mean</i>	<i>SD</i>
1	It is an instrument for carrying all kinds of goods.	3.63
2	It is only use as a material for crafting.	3.40
3	Only use for business requirement because of the trademark printed on the paper bag.	3.57
4	It is simply an effective promotional tool.	3.67

5	Intended to sell just for income.	3.63
6	A tool for gift wrapping.	3.60
OVERALL	3.58	0.23

Statement Number 4, with a mean score of 3.67 and a standard deviation of 0.48, represents the highest level of acceptability among the selected medium-sized businesses in Apalit, Pampanga, when it comes to the utilization of paper bags. This statement underscores that paper bags are seen as effective promotional tools. The high mean score suggests that businesses in the area view paper bags not just as packaging materials but as an opportunity to promote their products or services effectively. The low standard deviation indicates that there is a consensus among respondents regarding the promotional utility of paper bags.

Statement Number 2, with the lowest mean score of 3.40 and a standard deviation of 0.50, still falls within the “Highly Acceptable” category, but it has a lower mean and a higher standard deviation as compared with the other statements. This statement suggests that some businesses might see paper bags primarily as materials for crafting rather than for packaging goods. The higher standard deviation indicates that there is a bit more variation in opinion among respondents about this aspect of paper bag utilization. However, the overall mean for all statements related to bag utilization is 3.58 with a moderate standard deviation of 0.23, indicating that, on average, the selected medium-sized businesses in Apalit, Pampanga, highly accept the various ways paper bags can be utilized in their operations, with minor variations in their perceptions of specific utilization purposes.

In today's context, paper bags have become a symbol of fashion. Many individuals prefer using them due to their lightness, ease of cleaning, and long-lasting nature. Even though plastic bags share these attributes, they lack a sense of style. Additionally, the robust structure and surface qualities of paper bags make them an excellent canvas for printing high-quality images, logos, and designs. As a result, they are favored in industries related to fashion, luxury, and high-end gift packaging. Opting for chic paper bags can elevate a brand's reputation, making them a superior choice when compared to plain plastic bags (Li et al., 2022).

Table 6: Level of Acceptability of Utilizing Paper Packaging

<i>Level of Acceptability of Utilizing Paper Packaging</i>	<i>Mean</i>	<i>SD</i>
Implementation of Policy	3.81	0.22
Bag Practicality	3.51	0.24
Bag Utilization	3.58	0.23
OVERALL	3.63	0.16

In this study on the level of acceptability of utilizing paper bags in packaging goods among selected medium-sized businesses in Apalit, Pampanga, the highest mean and standard deviation (SD) are found in the category of “Implementation of Policy”. With a mean score of 3.81 and a low SD of 0.22, it indicates that there is a strong consensus among these businesses regarding the acceptability of the policy. The high mean suggests that the businesses in the area highly support the policy's implementation, likely due to its positive impact on the community and the environment. The low SD further suggests that there is little variation in their opinions, indicating a high degree of agreement among respondents.

On the other hand, the lowest mean and SD are found in the category of “Bag Practicality”. With a mean score of 3.51 and a slightly higher but still moderate SD of 0.24, it suggests that while paper bags are accepted as practical, there is a bit more variation in opinions regarding their practicality compared to the implementation of the policy. This could indicate that some businesses have slightly differing views on the ease of use and other practical aspects of paper bags. However, the overall mean for all categories is 3.63 with a low SD of 0.16, demonstrating that, on average, the selected medium-sized businesses in Apalit, Pampanga, highly accept the use of paper bags for packaging goods, with only minor variations in their perceptions across different aspects of the study.

With all restrictions, firms have shifted to using ecologically friendly operational strategies. This change results from businesses changing their tactics to reflect the increased consumer preference for eco-friendly products. Customers show a readiness to commit additional resources when it comes to eco-friendly packaging. They show an increased sensitivity to environmental issues and are conscious of how their actions collectively affect the environment (James & Kurian 2021).

Serrano et al. (2017) concluded that in businesses, primarily in the drugstore and fast-food restaurant sectors, which had been in operation for over six years and had incorporated paper bags into their operations for at least four years. The findings indicated a widespread acceptance of paper bags, with businesses consistently using them for packaging and rating them as “very highly accepted”. Both business owners and consumers recognized significant benefits associated with using paper bags, particularly in terms of their positive impact on the environment and the economy. These advantages were rated as exceptionally advantageous. This suggests that there was a widespread positive perception of paper bags and their contributions to environmental sustainability and economic well-being. However, the study also identified several challenges. Businesses noted that paper bags lack durability,

especially when it came to packaging heavier items. This issue was a significant concern for them. Conversely, customers expressed reservations about using paper bags during the rainy season, highlighting weather-related challenges, and suggesting that these bags might not be the best choice under such conditions.

1.3. Statement of the Problem 3: Significant Relationship

Table 7: Implementation of Policy (Pearson Correlation)

		<i>Bag Practicality</i>	<i>BAG UTILIZATION</i>
Implement ation of Policy	Pearson Correlation	.147	.218
	Sig. (2-tailed)	.439	.248
	N	30	30

The analysis of the data reveals interesting findings regarding the level of acceptability of utilizing paper bags in packaging goods among selected medium-sized businesses in Apalit, Pampanga. The Pearson correlation coefficients between “Bag Practicality” and “Implementation of Policy” as well as between “Bag Utilization” and “Implementation of Policy” are 0.147 and 0.218, respectively. Both correlations have p-values greater than 0.05 (0.439 and 0.248, respectively) which indicates that there is no statistically significant relationship between the implementation of a policy and the practicality or utilization of paper bags. This suggests that the acceptance of paper bags as a packaging option among these businesses is not strongly influenced by the presence or absence of a formal policy. Further qualitative research may be needed to understand the factors driving the acceptance of paper bags in this context.

According to Schachter & Karasik (2022), while other communities have already addressed the issue regarding the plastic pollution by informational and regulatory tools, the overall trash management is still an issue, and plastic waste creation is still at an all-time high. Like how the national response to the point is restricted, there is a need to support in tackling plastics more thoroughly. With the region’s sensitivity to climate change and the negative impacts that the plastic trash may have on storm drainage systems, it will be crucial for them to monitor the effects of these regulations and invest in solid waste management and capacity. It will be challenging in getting the marketers to adjust to these shifts.

Table 9: Bag Practicality (Pearson Correlation)

		<i>Implementation of policy</i>	<i>BAG UTILIZATION</i>
Bag Practicality	Pearson Correlation	.147	.243
	Sig. (2-tailed)	.439	.195
	N	30	30

The analysis of the data indicates that there is a weak positive correlation between “Bag Practicality” and “Implementation of Policy,” with a Pearson correlation coefficient of 0.147. However, this correlation is not statistically significant, as the p-value (0.439) is greater than the conventional significance level of 0.05. On the other hand, there is a slightly stronger positive correlation of 0.243 between “Bag Utilization” and “Implementation of Policy,” but this correlation is also not statistically significant, with a p-value of 0.195. These findings suggest that the presence or absence of a formal policy does not significantly impact either the practicality or the utilization of paper bags among the selected medium-sized businesses in Apalit, Pampanga. Additional qualitative research may be necessary to better understand the factors influencing the adoption of paper bags in this context.

Having a weak positive correlation, the bag practicality affects the utilization of paper packaging and the implementation of the policy among the medium enterprises in Apalit, Pampanga. Some owners still choose packaging that will benefit their business especially with their expenses and the preference of their customers.

In the study of Yasser et al. (2017) discussed that Paper bags come in a variety of types and sizes, square-bottom paper bags are a vital asset for businesses due to their stability during transport and their ability to stand upright. However, the manufacturing process of paper bags consumes substantial quantities of water, energy, and raw materials from trees. Paper bags offer several advantages, such as their strength, suitability for printing, high quality, ease of environmental decomposition, and strong recyclability. On the downside, paper bags are heavier, costlier in comparison to plastic bags, and require significant energy inputs.

Table 10: Bag Utilization (Pearson Correlation)

		<i>Implementatio n of policy</i>	<i>BAG PRACTICALI TY</i>
Bag Utilization	Pearson Correlation	.218	.243
	Sig. (2-tailed)	.248	.195
	N	30	30

The analysis of the data shows a positive correlation between "Implementation of Policy" and both "Bag Practicality" and "Bag Utilization". Specifically, the Pearson correlation coefficient between "Implementation of Policy" and Bag Practicality" is 0.243, while the correlation coefficient between "Implementation of Policy" and "Bag Utilization" is 0.218. However, these correlations are not statistically significant, as both p-values are greater than 0.05 (0.248 and 0.195, respectively). This suggests that the presence or absence of a formal policy does not have a statistically significant impact on either the practicality or the utilization of paper bags among the selected medium-sized businesses in Apalit, Pampanga. Further research may be necessary to explore other factors that influence the adoption of paper bags in this context.

As the strict implementation of the policy occurs, it might affect the decision of the business owners about shifting to paper packaging from using plastic packaging before. With the ordinance implemented in Apalit, businesses were obliged to change their packaging in accordance with the policy of the town. The local government unit officials aspire that this policy will be the answer to their improper trash management and increase usage of plastics.

Nguyen et al. (2020) study discussed that concerns over packaging's effects on the environment is growing among consumers. Governments and customers are pressuring businesses to use eco-friendly packaging for their goods. Yet, customers still debate about what constitutes eco-friendly packaging, especially in new markets. Packaging materials, production technique, and market attractiveness are the three main factors that may be used to classify consumers' perceptions of eco-friendly packaging. Although consumers' opinions of eco-friendly packaging vary, their understanding is limited and primarily focused on the marketability and biodegradability of packaging materials (such as attractive graphic design and reasonable price). Despite the insufficient knowledge of industrial technology, consumers nevertheless aim for an environmentally responsible production process.

2. Discussion

The present study aimed to evaluate and examine the level of the utilization of paper packaging by medium businesses establishment in Apalit, Pampanga.

Specifically, it aimed to answer the following questions;

1. How may the respondents be described in terms of:

- 1.1. type of business; and
- 1.2. year of operation?

Type of Business: Apalit, Pampanga's business landscape is diversified, with Grocery stores dominating at 53.33%, emphasizing their economic importance. Home and Appliance Store and Construction Tools Stores have a limited presence at 3.33% each. The variety of businesses, including courier services and fast-food chains, reflects a multifaceted local economy, provides a range of products and opportunities for entrepreneurs. Overall, the findings highlighted the dynamic and varied market in Apalit, with significant implications for Grocery stores.

Years of Operation: The data gathered on the years of operation for businesses in the studied area revealed a diverse business landscape. Most businesses surveyed in the study have been operating for relatively short periods. However, local business landscape is combined with a strong presence of new businesses and a notable portion of well-established ones which creates a promising and varied economic ecosystem.

2. What is the level of acceptability of utilizing paper bag by the respondents in terms of:

- 2.1. Implementation of Policy
- 2.2. Bag Practicality
- 2.3. Bag Utilization

Implementation of Policy: Based on the findings from the survey conducted on behalf of local businesses, the study reveals that medium-sized businesses in Apalit, Pampanga generally show a high level of acceptability towards the implementation of the policy promoting the use of paper packaging. The highest level of acceptability is associated with the positive impact of using paper bags in flood prevention. Conversely, the policy's potential downside related to increased tree-cutting for paper bag production, indicating some varying opinions and concerns about its environmental impact. The businesses demonstrated a favorable attitude, suggesting a high level of acceptance with only minor variations in their views regarding different aspects of the policy's impact.

Bag Practicality: The survey conducted among medium-sized businesses in Apalit, Pampanga, highlights a generally positive outlook on the practicality of using paper packaging of their products. It signifies a strong endorsement from businesses in the area

for the practicality and eco-friendliness of paper bags as a packaging choice, emphasizing their sustainability and recyclability. However, there is a notable lack of acceptability and a significant range of opinions when it comes to the durability of paper packaging among the surveyed businesses.

Bag Utilization: According to the study's results, respondents had a high level of acceptability for using paper bags as effective promotional tools. This suggests that businesses in the area view paper bags not just as packaging materials but also as a means to promote their products or services. Nevertheless, some businesses may see paper bags primarily for crafting rather than packaging. But when considering all statements related to paper bag utilization, medium-sized businesses in Apalit, Pampanga, "highly accept" the various ways paper bags can be used in their operations, with only minor differences in their perceptions of specific utilization purposes.

3. Is there a significant relationship between the Level of Acceptability on utilizing paper bags in packaging goods in terms of; implementation of policy; bag practicality; bag utilization and demographic profile of the respondents?

According to the results of the study, data reveal that there is a weak positive correlation between "Bag Practicality" and "Implementation of Policy" (correlation coefficient of 0.147) and a slightly stronger positive correlation between "Bag Utilization" and "Implementation of Policy" (correlation coefficient of 0.218). However, in both cases, the p-values are greater than 0.05 (0.439 and 0.248 for "Bag Practicality" and "Bag Utilization," respectively), indicating that the presence or absence of a formal policy does not have a statistically significant impact on the practicality or utilization of paper bags among the selected medium-sized businesses in Apalit, Pampanga. Additional qualitative research may be necessary to better understand the factors influencing the adoption of paper bags in this context.

4. What would be the proposed action plan regarding the acceptability of utilizing paper packaging among medium enterprises in Apalit, Pampanga?

Based on the provided results and the positive attitude of businesses and respondents toward the implementation of the ordinance and the use of paper bags in Apalit, Pampanga, the researchers developed an action plan to further support and promote these eco-friendly practices. Reflected on the succeeding pages are copies of an action plan and a brochure that shows the advocacy campaign on the use of paper packaging that can help leverage these findings.

Hypothesis: H0: There is no significant relationship between the levels of acceptability of using paper bags in terms of policy implementation, bag description and bag utilization.

The analysis of data from selected medium-sized businesses in Apalit, Pampanga, reveals no statistically significant relationship between the levels of acceptability of using paper bags and the implementation of policies, bag practicality, and bag utilization. The Pearson correlation coefficients between "Bag Practicality" and "Implementation of Policy" (0.147) and between "Bag Utilization" and "Implementation of Policy" (0.218) exhibited weak positive correlations, but the associated p-values (0.439 and 0.248, respectively) were greater than the conventional significance level of 0.05. Therefore, we failed to reject the null hypothesis (H0), indicating that the presence or absence of a formal policy does not significantly influence the practicality or utilization of paper bags in this context. Additional qualitative research is recommended to better comprehend the factors driving the acceptance of paper bags among these businesses.

5. Conclusion

With the data gathered and the result interpretation from the expert, the following conclusion were made:

The selected medium-sized business in Apalit, Pampanga accept the implementation of the Ordinance No. 1 series 2013 – 2014 or the "The Plastic Bag Regulation" which prohibits the use of plastic as a packaging to all the goods that can be bought in the market. It is said that this policy will not only benefit their business but also the wider community and the environment as it will lessen the trash produced from plastic and this will prevent the town from experiencing flood.

Many of the businesses in Apalit have adopted the policy and are now using paper bags as their packaging. Prioritizing the environment over convenience has become their goal, leading to their openness to use reusable bags and containers over a single-used plastic. Business owners see this function as an encouragement to observe cleanliness not only to the peripheries of the market but also to the whole town.

Paper bags are not only seen as a packaging but also an effective promotional tool for a business either big or small. Choosing a paper bag will highlight its usefulness, recyclability and eco-friendly as a packaging option. For shoppers who are more concerned about the environment, they will prioritize businesses that offer eco-friendly packaging.

Respondents have a positive view of using paper bags in maintaining cleanliness while observing the ordinance in the town of Apalit. Also, using paper bags serves as an opportunity for businesses to promote their products effectively and efficiently.

6. Recommendation

Considering the study's discoveries and its resultant conclusions, the following recommendations have been put forth:

With the ordinance being accepted by medium-sized businesses in Apalit, Pampanga, other type of businesses should also follow and observe the ordinance implemented by the municipality in using paper bag as packaging.

The officials from the Municipality of Apalit must conduct further and more detailed research in relation with the ordinance but with different factors to further identify the effect of the implementation of the policy in the town. They should also consider

expanding the target respondents of the study to comprehensively assess the policy's result not only on medium-sized businesses but also to other MSME's or the Micro, Small, Medium sized Enterprises.

More businesses should be aware of the positive outcome of using paper bag in terms of packaging goods. This will not only be effective for business but also for the environment. This may aid in lessening and eliminating the use of plastic not only in the market but also to the whole town.

With the paper bags' limited durability, businesses and even government officials must come up with other tools for packaging that are recyclable and made with eco-friendly materials.

The government officials of Apalit should implement a regulation that will support the ordinance to protect not only the businesses but also the environment. Also, the LGU must continuously and consistently monitor the condition of trash in the town. The Municipality of Apalit should implement the Action Plan to educate both business owners and the general public, strengthen the acceptance of paper packaging and raise awareness about the ordinance throughout the town.

Future researchers in this field are encouraged to amalgamate and explore additional factors intertwined with the research. Furthermore, the researchers also suggest conducting the study with an extensive sample size to yield additional information and data.

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