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Recommended Citation

Nuhija, Azra and Lajqi, Violeta, "Consumer Perception and the Environmental Impact of Fast-Food Packaging" (2023). *UBT International Conference*. 1.

<https://knowledgecenter.ubt-uni.net/conference/IC/Food/1>

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Consumer Perception and the Environmental Impact of Fast-Food Packaging

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Abstract. Fast food packaging represents a pervasive yet often overlooked facet of modern dining, bearing both convenience and significant environmental challenges. This study investigates how consumer awareness of the environmental consequences of packaging materials influences their preferences and behaviors. It explores consumer preferences for materials perceived as more eco-friendly, such as paper-based options over plastics, and the consequential impact on disposal practices. This study used quantitative research to investigate consumer perception and the environmental impact of fast-food packaging. It was conducted through a Google Docs survey, to which approximately 250 people responded in Kosovo. The data tool used to analyze the answers from respondents is the IBM SPSS program, through which the statistical and graphic data for the choices in the questionnaire are obtained. Understanding the nexus of consumer perception and the environmental impact of fast-food packaging is instrumental in promoting sustainability within the food service industry. The result indicates that environmental awareness among consumers is increasing, they are showing increased interest in products that have less impact on the environment. Also, this research provides valuable insights for policymakers, fast food businesses, and environmental advocates working to align the industry with consumer expectations and broader sustainability goals.

Keywords: Consumer Perception, Fast Food Packaging, Environmental Impact, Sustainability

Introduction

Food product packaging is used to keep, store and protect foods from environment factors and promotion purposes (COLES, 2003) (Raheem, Ahmad, Vinshu & Imamuddin, 2014). But also, it is well known about the impact of packaging on the environment and human health (FootPrint, 2024), which necessitating ongoing monitoring. In today's global landscape, the relationship between consumer perception and the environmental impact of fast-food packaging has emerged as a subject of profound significance. This relationship warrants careful consideration, as understanding it could play a pivotal role in mitigating environmental pollution.

The US Environmental Protection Agency (EPA) states that nearly half of the municipal solid waste is comprised of food and materials used for food packaging, of which the biggest polluters are plastic packaging. Plastic pollution is a serious concern. The Plastic Pollution Coalition (Webinar, 2024) estimates that by the year 2050, the oceans will contain more plastic than fish in terms of weight. The exponential growth of plastics is now threatening the survival of our planet. Plastic types of packaging take hundreds of years to break down in our environment and can harm wildlife and their habitats (Goforgreen, 2023). Khwaldia and colleagues (Khwaldia, 2010) highlight that paper is often favored by the food industry due to its eco-friendly reputation, making it a preferred material for packaging. It is extensively utilized both at the primary level, meaning it comes directly into contact with food items, and at the secondary level, which involves the transport and storage of these primary packages. Specifically, paper and paperboard are employed in the production of various food containers, including ice cream cups, microwave popcorn bags,

baking paper, milk cartons, fast food boxes like those for pizza, and cups for beverages. However, from a health perspective, when paper comes into direct contact with food, there is a risk of certain chemicals used in the production of grease-resistant paper, such as fluorochemicals, perfluorooctanoic acids (PFOA), and perfluoro-octane-sulfonates (PFOS) (Begley, 2007; Xenia Trier, 2017; You, 2023), migrating from the paper to the food. Additionally, some inks used to print logos and other information on paper packaging may contain heavy metals or other harmful substances that could migrate into the food and some heavy metals involved in paper recycling processes including lead, cadmium, and mercury.

Nowadays in worldwide, increased awareness and behavioral changes regarding fast food packaging are becoming increasingly crucial in the development of sustainable consumption patterns. As environmental awareness grows, consumers are more and more involved in selecting products that reflect their values for a more sustainable world. However, the understanding of eco-friendly packaging among consumers is not always clear and consumers have different motives for choosing green-packaged products (Labrecque, 2021). A recent study (Conference, 2021) presented at a 2021 conference shows that over a third of consumers worldwide are prepared to spend more on sustainable options, highlighting a rising demand for eco-friendly alternatives.

As environmental concerns and sustainability awareness continue to gain momentum, the choices consumers make regarding their fast-food packaging preferences carry far-reaching implications for the well-being of our planet. If a customer perceives high value, then this affects purchase intention (James, 2002; Ahmed, 2014). As outlined by James (2002), a heightened level of perceived value directly contributes to the intention to purchase.

The purpose of our study is to show the impact of fast-food packaging on the environment and consumer perception. This enables us to find a way to change the consumer's purchase decision by informing them with eco-friendly or biodegradable material, ecological signs, labeling, attractive packaging, promotions and other ways to reduce the impact of packaging on the environment (Yaputra et al, 2022; Estiri, 2010; Technologies, 2023. The findings of research (Priyanjana Roy, 2021) suggest that the customer's buying decision might be altered or impacted by developing the packaging and understanding the buying decision of the customers. As fast-food package waste is a growing concern for both businesses and consumers, according to Goforgreen (2023) (fig.).



Fig. Package waste from Fast-foods in a late dinner, a – purchase for 1 person and b. waste from 3 purchase persons

Restaurants can enhance the ecological aspects of their fast-food packaging by opting for recyclable and compostable materials instead of traditional plastic or foam containers. Paper packaging is a more environmentally friendly option, and it is easier to recycle than plastic packaging. EU restrictions on certain single-use plastics have influenced the points of sale to take measures to replace them with more environmentally friendly materials (EU Commission, 2021; Guardian, 2023; News, 2023).

Consumers are becoming increasingly environmentally conscious, prompting significant changes in the fast-food industry. This shift is evident through the demand for recyclable and biodegradable packaging materials, which consumers prefer due to their eco-friendly properties. Social media and consumer activism amplify the influence of consumer perception, compelling fast-food chains to become more environmentally responsible. Economic incentives and consumer education further drive the adoption of sustainable packaging options. In summary, consumer perception is reshaping the fast-food packaging industry,

promoting eco-conscious choices and fostering positive change for both the environment and consumers. As consumers increasingly prioritize eco-conscious options, the industry is compelled to adapt, innovating toward more sustainable practices. This transformation underscores the interconnectedness of individual choices and their broader environmental consequences. The role of consumer awareness and preference is paramount in shaping the future of fast-food packaging, with the potential to drive positive change for both the environment and the evolving values of conscientious consumers. The visual appeal of product packaging is also a medium for marketing promotions (Silayoi & Speece, 2007). Some consumers are paying more attention to label information, as they become more concerned about health and nutrition (Coulson, 2000).

Research material and method

This study uses a quantitative research approach to investigate consumer perception and environmental impact of fast-food packaging. Primary data for this research was collected through a structured questionnaire and analysis was carried out using IBM SPSS software. The questionnaire was designed to include three main sections: demographic information, consumer perception and environmental impact of fast-food packaging, and quality aspect of food product packaging. The main data collection instrument for this study was a structured questionnaire. This questionnaire was carefully developed to ensure the capture of relevant information regarding consumer perceptions, awareness of environmental impact and quality aspects of fast-food packaging. The first part of the questionnaire collected demographic data to understand the profile of the respondents, including gender, age, education level, occupation, monthly income and region of residence. These details provide context and allow for demographic segmentation. The second part of the questionnaire delved into consumer perception of fast-food packaging and its environmental impact. The questions in this section aimed to assess respondents' awareness of environmental issues related to packaging and their preferences for sustainable materials.

A random sampling technique was used to ensure that every potential respondent in some Kosovo regions within the target population had an equal chance of being included in the survey. This approach increases the representativeness of the sample. Target group of the study for the respondents were individuals aged 20 to 50 years. This age range was chosen to capture a diverse demographic that is likely to include a significant portion of fast-food consumers. Data analysis for this research was performed using IBM SPSS software. The quantitative data obtained from the structured questionnaire were entered into the software for statistical analysis.

In conclusion, this study adopted a quantitative research approach using a structured questionnaire to collect data regarding consumer perception and environmental impact of fast-food packaging. The research focused on a target age group of 20 to 50 years and included analysis of demographic information, environmental awareness and quality aspects of packaging. The IBM SPSS program was used for data analysis, facilitating a comprehensive examination of the information collected. The methodology used in this study provides a systematic and structured investigation into the aforementioned research area, providing valuable insights into consumer preferences and the environmental implications of fast-food packaging.

Results and discussions

Analysis of research results includes a comprehensive examination of demographic characteristics and consumer perceptions regarding fast food packaging. By dividing the data into two main sections – demographics and consumer perception a comprehensive understanding of the research findings emerges. In terms of demographics, the survey captured a diverse sample, including respondents in some Kosovo regions, from different age groups, genders, educational backgrounds, occupations and income levels. This diversity is essential as it reflects a broad spectrum of fast-food consumers and their potential influence on packaging preferences and environmental awareness.

Turning to consumer perception, the findings underscore the importance of environmental awareness. Respondents who exhibit a higher degree of environmental awareness are more likely to favor environmentally friendly packaging materials, such as biodegradable and recyclable ones. Additionally, the study examines how fast food packaging can influence brand perception, shedding light on the value of consistency in maintaining a positive brand image.

Finally, the analysis delves into environmental pollution and recycling habits related to fast food packaging. These data not only highlight current recycling practices, but also highlight potential challenges within recycling systems, highlighting areas that require consumer education and infrastructure improvement as well as pollution reduction.

This integrated analysis serves as a critical basis for subsequent discussions and recommendations in the study. It provides actionable insights for fast food businesses, policy makers and stakeholders to develop sustainable packaging strategies, increase consumer engagement and align with evolving environmental expectations within the fast-food industry.

"The questionnaire aimed to understand people's preferences regarding fast food (Tab.1). 254 people were surveyed and each was asked to select the main factors they consider when making their choice when eating fast food. Options offered were Calories, Taste, Price, Customer Service and Location during the trip. The responses were analyzed and the results show that most respondents value the Calories and Taste factors the most, indicating a high interest in quality and nutritional content. On the other hand, Price is also an important factor, but seems to be given less attention compared to Calories and Taste. Customer service and location during the trip were determined to be the least important factors for this group of responses."

Tab 1: What main factors do you consider when choosing to eat fast food?

<i>What main factors do you consider when choosing to eat fast food?</i>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Calories	23	9.1	9.2	9.2
	Taste	169	66.5	67.9	77.1
	The cost	12	4.7	4.8	81.9
	Consumer servis	4	1.6	1.6	83.5
	Location	20	7.9	8.0	91.6
	During the trip	21	8.3	8.4	100.0
	Total	249	98.0	100.0	
Missing	System	5	2.0		
Total		254	100.0		

"The question below was intended to assess the respondents' opinions regarding the impact of fast-food packaging on the environment (Tab.2). Out of 254 responses, the largest majority, i.e. 105 people, have expressed the belief that fast food packaging has a very large impact on the environment This expresses a strong concern for the environmental consequences of packaging, showing awareness about the impact of waste and materials used

Tab 2: Do you think fast food packing has a negative impact on environment? (Fill in one of the points1-5)

<i>Do you think fast food packing has a negative impact on environment? (Fill in one of the points 1-5)</i>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pak	22	8.7	8.9	8.9
	Rrallehere	19	7.5	7.7	16.7
	mesatarisht	70	27.6	28.5	45.1
	mbi mesataren	30	11.8	12.2	57.3
	Shume	105	41.3	42.7	100.0

Total		246	96.9	100.0	
Missing	System	8	3.1		
Total		254	100.0		

"The majority of respondents, with a percentage of 55.1%, have expressed that they understand the meaning of the ecological signs placed on the packaging label (Tab. 3). This expresses a positive consensus among consumers regarding the meaning of such signs and an awareness about the importance of using packaging environmental. A small part of respondents, with a percentage of 5.1%, said that they do not understand the meaning of ecological signs. This small number can be explained by the lack of information or awareness enough about the signs used to identify environmental packaging.

Overall, the survey results show a growing awareness of environmental topics and a desire to understand and support products that have a positive impact on the environment."

Tab 3: Do you know to distinguish packaging that is less harmful to environment?

<i>Do you know to distinguish packaging that is less harmful to environment?</i>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	140	55.1	56.9	56.9
	No	13	5.1	5.3	62.2
	Some	93	36.6	37.8	100.0
	Total	246	96.9	100.0	
Missing	System	8	3.1		
Total		254	100.0		

The survey on willingness to pay more for food in biodegradable and bioplastic packaging gathered responses from 246 individuals (Tab. 4). The results show a spectrum of attitudes:

- *Not Ready:* 29 respondents (11.4%) are not willing to pay extra, possibly prioritizing other factors.
- *Ready to Some Extent:* 26 respondents (10.2%) are open to the idea but with reservations on the additional cost.
- *Average Ready:* 77 respondents (30.3%) are moderately committed to paying more for environmentally friendly packaging.
- *Ready:* 43 respondents (16.9%) express clear readiness to pay more, showing a higher value on sustainability.
- *Very Ready:* The largest group, 71 respondents (28.0%), are highly committed to paying extra for eco-friendly packaging, indicating a strong alignment with environmental sustainability.

In summary, the survey suggests that around 60.64% of respondents have some level of willingness to pay extra for environmentally friendly packaging, with a significant portion (28.0%) expressing a high level of commitment to supporting sustainable practices.

Tab 4: How much more are you willing to pay food in biodegradable and packing to protect the environment? (Fill in of the points 1-5)

<i>How much more are you willing to pay food in biodegradable and packing to protect the environment? (Fill in of the points 1-5)</i>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not ready	29	11.4	11.8	11.8
	Ready to some extend	26	10.2	10.6	22.4
	Average ready	77	30.3	31.3	53.7

	Ready	43	16.9	17.5	71.1
	Very ready	71	28.0	28.9	100.0
	Total	246	96.9	100.0	
Missing	System	8	3.1		
Total		254	100.0		

The survey respondents overwhelmingly identified plastic as the most harmful type of fast-food packaging to the environment, with 211 individuals (83.1%) expressing this concern (Tab.5). This widespread perception aligns with the well-documented environmental impact of plastic waste. While there were minimal concerns raised about metal, glass, paper/cardboard, and tetra pack materials, the dominance of plastic in respondents' views underscores the urgent need for sustainable alternatives and heightened awareness campaigns to address the environmental challenges associated with plastic packaging in the fast-food industry. This consensus offers valuable insights for businesses and policymakers aiming to prioritize eco-friendly practices and reduce the environmental footprint of the packaging used in the fast-food sector.

Tab 5: Which types of fast-food packaging do you think are the most harmful to the environment?

<i>Which types of fast-food packaging do you think are the most harmful to the environment?</i>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Plastika	211	83.1	85.8	85.8
	Metali	14	5.5	5.7	91.5
	Qelqi	8	3.1	3.3	94.7
	Letra/Kartoni	12	4.7	4.9	99.6
	Materialet tetrapak (aseptic)	1	.4	.4	100.0
	Total	246	96.9	100.0	
Missing	System	8	3.1		
Total		254	100.0		

The question was intended to assess the respondents' opinions regarding the best way to educate more people about reducing food waste and environmentally friendly packaging (Diagram 1.).

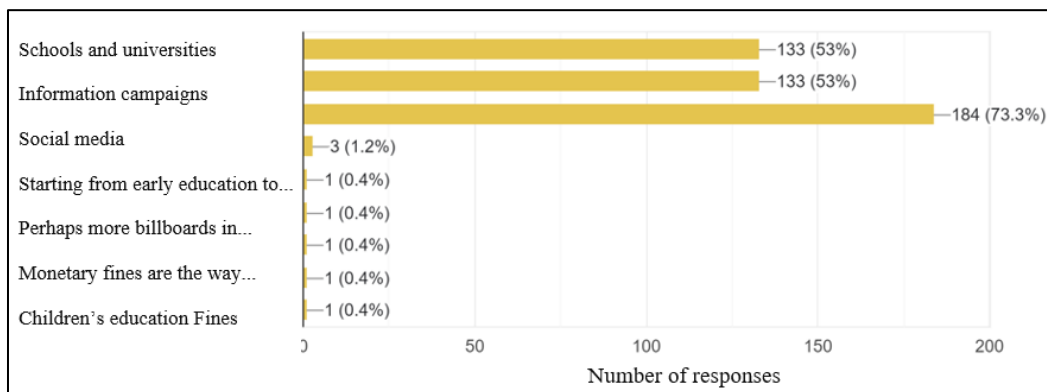


Diagram 1: Which types of fast-food packaging do you think are the most harmful to the environment?

"The question was intended to assess the respondents' opinions regarding the best way to educate more people about reducing food waste and environmentally friendly packaging (Diagram 1.). The survey indicated that schools and universities, as well as information campaigns, are considered equally effective in educating the public about reducing food waste and using environmentally friendly packaging, each receiving 53% (133 responses) of participant support. Social media stands out as the primary educational tool with a notable 73.3% (184 responses), highlighting its significant reach and influence in raising environmental awareness. While the majority of participants show a clear understanding and endorsement of educational methods that

promote environmental consciousness, a minuscule segment appears to be less informed, possibly due to a deficiency in accessible information or general awareness about environmental packaging signs. In summary, the findings reflect a general trend of increased environmental awareness and a proactive stance among consumers to engage with and support environmentally responsible practices."

6 Conclusions and recommendations

According to the findings from this research we can conclude that Environmental awareness is growing: Research reveals a growing environmental consciousness among fast food consumers. A significant proportion of respondents expressed awareness of the environmental impact of packaging, emphasizing the need for businesses to prioritize sustainability. Preference for sustainable materials: Consumers increasingly prefer fast food packaging made from environmentally friendly materials such as biodegradable and recyclable. Brands that adopt these materials are likely to do well with environmentally conscious consumers. As recommendations are to adopt sustainable packaging practices: Fast food businesses should switch to sustainable packaging materials, such as biodegradable and recyclable ones. This move aligns with consumer preferences and reduces environmental impact. Companies must share transparent information with ecological signs and sustainable packaging for consumers regarding packaging materials. Companies should encourage the use of biodegradable packaging materials, such as compostable plastics or plant-based materials, to reduce environmental impact and promote decomposition. Companies should introduce take-back programs where customers can return used packaging to designated collection points for proper disposal or recycling.

By implementing these recommendations, fast food businesses can not only meet the growing demand for sustainable packaging, but also contribute to reducing the environmental impact of their operations. This approach aligns with consumer expectations and positions brands as responsible stewards of the environment, driving customer loyalty and long-term success in an increasingly environmentally conscious marketplace. Since there is still no in-depth study in the field of waste generation from fast-food packaging in Kosovo, I hope that this study will serve as an Incentive for further research.

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