

Packaging personalization in the food industry: an analysis of motivations, attitudes, and methods

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Abstract

The paper aims to investigate the motivations and purchasing behavior of a product in the food sector with personalized packaging, and the interest in packaging personalization typologies. The study may be interesting because packaging personalization in the food industry can increase brand loyalty and address the commodity trap.

Methodologically, the study was conducted by carrying out quantitative research with 642 valid surveys administered through Google Forms.

The analysis revealed some significant diversities; in particular, based on the interest in packaging personalization modalities, “Insert initials” is the most significant. Based on attitude, it appears that those who are most interested, generally show greater interest in different types of personalization than those who are not interested. Regarding motivation, respondents would like to purchase products/services with personalized packaging “To make a personal gift to someone they care about”.

From a managerial point of view, the results highlight that companies should accurately segment and identify customers who are interested in having personalized packaging for themselves, offering opportunities to make a gift and providing very personalized packaging. Future developments in this study may be directed toward understanding the impact of different typologies of personalization on commodities and delving deeper into those interested in personalization.

Key Words: Personalization, Packaging personalization, Food industry

Introduction and Objectives

In recent years, the trend toward personalization has especially affected the food industry, whose products have always been sold in huge quantities by large-scale retailers. Therefore, the personalization of food and beverage offerings has induced an important change in the way companies manage their relationship with the final consumer, because it has fostered the creation of a new, direct relationship which is increasingly replacing the old type of indirect relationship, characterized by the intermediation of retail brands.

According to a research by Leatherhead Food Research (2019), consumers demand food and beverage products that are tailored to meet their nutritional needs as well as their taste. In addition, market dynamics will lead companies to accommodate the demands for greater levels of customization from a consumer who wants to satisfy sensory preferences and nutritional needs.

However, the most frequent personalization in this industry is in the packaging, and many leading brands adopt it (es. Coca-Cola, Oreo, Nutella and Mulino Bianco) to increase brand loyalty by addressing the commodity trap through differentiation.

This strategy is in line with the new role of packaging, which goes beyond the functional logic of a mere container, to become a tool through which each brand communicates with its market (Nomisma, 2019). Product packaging thus turns into a tool for communication, visibility, and consumer identity.

In fact, the modern consumer is curious and interested in experimenting new products, by also being attracted by how the offer is presented (Gustiani et al., 2022). By understanding consumers' needs and enhancing their experience, companies can differentiate themselves in a very crowded market, like the food and beverage one, by offering the opportunity to personalize packaging.

In addition, the advent of Information and Communication Technologies has made the personalization process more effective and efficient, by enabling greater customer involvement in defining personalized offerings. New technologies allow shifting the interface between customer and company from the mere purchase moment to real design stages, assigning to the customer the role of “product engineer” (Thomke & von Hippel, 2002). These are the new ways of on-demand customization (Chen et al., 2020), in which customization is achieved upon consumer's request.

Although packaging personalization in the food industry is widespread, an analysis of the literature reveals an increased interest in the study of the personalization of food products and their intrinsic characteristics (e.g. ingredients, calories content, taste, etc.) in order to meet the nutritional needs and food preferences of consumers (Nagpal et al., 2015; Vehmas et al., 2019; Boland, 2008; Wedowati et al., 2016; Kolb et al., 2014).

From the above emerges the objective of our work, which investigates, by means of a quantitative analysis, the motivations and purchasing behaviour of food products with personalized packaging and consumer interest in different types of personalization.

Research Questions

The gaps emerged from the review of the relevant literature, and the consequent research objectives of the present study, led to the following research questions:

- Do motivations to purchase food products with personalized packaging have significant differences?
- Do purchase attitudes have significant differences in personalized packaging?
- Do the packaging personalization methods demanded by consumers differ significantly?

Conceptual background

Personalization involves defining the offer according to the specific needs of the individual customer, meaningfully approximating their ideal product (Pine, 1993; Simonson, 2005). Peppers and Rogers (1997) define personalization as that process that starts with the customer's information to provide a solution targeted to the customer's need. Kotler et al. (2001) describe the process of offer personalization as a process based on the strong integration of segmentation, targeting, and positioning.

In this direction, further studies draw attention to the need to distinguish between two concepts too often used as interchangeable (Peppers & Rogers, 1997; Miceli et al., 2007): “personalization” and “customization”. According to Aksoy et al. (2021), personalization and customization differ at the conceptual level based on the ownership of control.

“Personalization” is a “firm-initiated” concept (Chandra et al., 2021). It is the company that initiates the personalization process by intervening in the variables of the marketing mix in order to satisfy consumer tastes. To do this, the enterprise uses its knowledge and insights about customers. Customization, on the other hand, is a “customer-initiated” concept (Chandra et al., 2021). In this case, the process starts with the consumer, who actively proposes interventions in the marketing mix to meet his or her needs (Montgomery & Smith, 2009).

Personalization's advantages are many either for marketers and for customers. Personalized products and services are considered to attract customer attentiveness and encourage customer loyalty, and act as protection against the commoditization of the offering. Personalization has been included as one of the significant modifications that are influencing and will continue to influence marketing.

Packaging generates value added for products for imminent consumption that have equal characteristics, such as milk or water (Schafer, 2013). Packaging can be the whole reason for a brand to exist as it communicates brand identity, places the product within a specific category, and attires attention in commercial environments. From a marketing point of view, some researchers link packaging with design and examine it to be a key element for the image of a company along with the logo, brochures, and commercials (Gómez et al., 2015).

It can be said that both personalization and packaging bring advantages and benefits to companies and the market.

As the years go by, the ways of proposing food product personalization to customers diversify. Personalization hasn't been so much studied in the food industry, despite the fact that it is very important in the grocery industry. Matthews et al. (2006) studied the adaptability of the food processing process. Boland (2006) thought about personalization in the food industry for health, and a few years later (Boland, 2008) wrote about the potential of personalization in the food industry to find the distinct individual's nutritional needs. McIntosh et al. (2010) examined expanding topics linked to the application of personalization in the food industry. Later on, Matthews et al. (2011) explored the potentiality of personalization applications in the food industry studying its opportunities and constraints. Wedowati et al. (2020) argue that the application of personalization in the food industry demands a suitable system design to meet customers' needs and wants. For these reasons, the authors decided to focus the study on packaging personalization and how attractive this is to increase brand loyalty and address the commodity trap.

The fact that research on the application of personalization in the food industry is minimal might be since the manufacturing process in this industry has specific characteristics also related to the need to ensure food safety and product quality. The packaging stage is ideal to apply the idea of personalization (Wedowati et al., 2020). Companies are approaching packaging personalization, and technology makes executing disruptive ideas possible in the quickest way possible (Sharma, 2020).

There are some motivations that bring customers to buy products with personalized packagings, such as products image, which includes product design, products impression, and products quality; products function, which includes telecommunication function, Internet service, store function and transmission function; derived function including photograph function, data process, multimedia broadcast and entertainment function; package price, which includes mobile phone price (Lin et al., 2010).

On closer inspection, to date, there is a lack of studies in the literature investigating consumer purchasing behavior of personalized food products packaging, while the scant research to date has examined the phenomenon only from businesses' perspective. In light of the above literature analysis, it is deemed useful to investigate packaging personalization in the food industry, the motivations and purchasing behavior of personalized packaging, and the interest in typologies of personalized packaging.

Method

Methodologically, the study has been conducted through the administration of a survey in April 2022 through Google Forms. Participants were not incentivized and were contacted by social platforms.

For data collection, a 19 questions' survey organized into 3 sections was administered: the first section investigated motivation, interest, place of purchase, and propensity to purchase the products with personalized packaging; the second section investigated the consumption of packaging personalized products in the food and beverage industry; and the last section aimed to trace the sociodemographic profile of the respondents (age, gender, residence, education level, profession, and average annual income). In order to offer an easier way to answer, we used for some questions a Likert-type scale with a range of 1 to 7 with the following indications: 1: Strongly disagree; 2: Disagree; 3: More disagree than agree; 4: Neither disagree nor agree; 5: More agree than disagree; 6: Agree; 7: Strongly agree, in with antecedents research (Ayyıldız, et al., 2022). The survey's questions were tested by two academic experts who had experience in personalization research.

Participants were contacted, initially through LinkedIn, Facebook, WhatsApp, and email, to provide information about the research project and invite completion of a questionnaire administered online. This means that we reached people from different sociodemographic backgrounds. Each respondent had more than 18 years old. The survey was sent with the information about the purpose of the research and then it was given an elastic period to answer the survey. An introductory message was used to assure respondents of the anonymity of all data and the confidentiality of the study (Chang et al., 2010). All people with more than 18 years old who would like to have personalized packaging were considered ideal respondents.

Totally, 650 surveys were collected of which 8 were discarded because they were not complete. Thus, the total number of valid answers was 642.

The sociodemographic characteristics of the investigated sample are shown in Table 1.

Table 1: Sociodemographic characteristics of the sample

	Characteristics	Number of times (n=642)	Percentage (%)
Gender	Female	464	72.3%
	Male	169	26.3%
	Prefers not to specify	9	1.4%
Age	18-26 years	259	40.3%
	27-41 years	231	36%
	42-57 years	86	13.4%
	More than 58 years	66	10.3%

Findings

To answer the various research questions and understand motivations and attitudes toward the topic of packaging, a number of questions were administered using a Likert scale based on 7 levels (totally agree/totally disagree), also to better understand behaviors on the extremes of the scale.

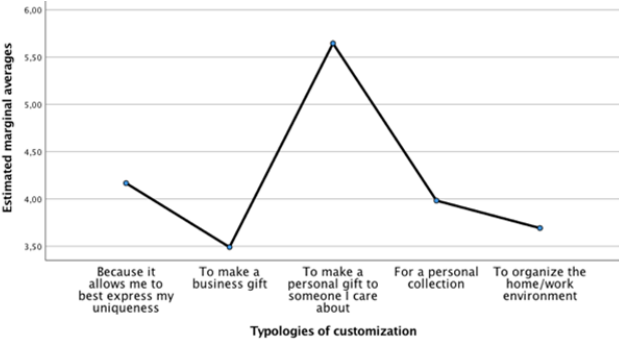
For the purposes of marketing policies, in the case of a personalization-oriented strategy, it is relevant to understand which motivations let customers on being interested to purchase products with personalized packaging. Therefore, a repeated-measures ANOVA has been made to control and test the differences between the following 5 variables (Because it allows me to best express my uniqueness; To make a business gift; To make a personal gift to someone I care about; For a personal collection; To organize the home/work environment). Each variable considered, as shown in Table 2, is significant.

Table 2: Attitudes toward typologies of personalization

	F	Sign.
Motivation toward express the uniqueness	136.923	<.001
Motivation toward make a personal gift	17.576	<.001
Motivation toward make a personal gift to someone	127.758	<.001
Motivation toward do a personal collection	58.133	<.001
Motivation toward organize home/work environment	33.188	<.001

The difference between each variable has been analyzed in order to find the most important and appealing motivation to respondents and thus understand what the significant differences were. It has then been performed a Bonferroni posthoc test to understand and deepen the significance. The third variable “To make a personal gift to someone I care about”, as shown in Figure 1, has a higher mean than the others and is more important than all other variables.

Figure 1: Estimated marginal averages question 2



Then, it was decided to extremize the values of the attitude question “Personalized products are a good idea” by taking the 7 levels of the Likert scale to 3 (where “totally disagree” and “disagree” were considered only one level; “more disagree than agree”, “neither disagree nor agree” and “more agree than disagree” were considered together, and finally “agree” and “totally agree” were considered one level). Next, a one-way ANOVA was performed on this extremized variable by cross-referencing it with the following 7 variables (Insert my own phrase; Insert initials; Insert a photo; Request exclusive and unique product packaging; Insert an exclusive fragrance; Request packaging with environmentally sustainable material; Being able to consume/use the product at a place/moment chosen only for me). As shown in Table 3,

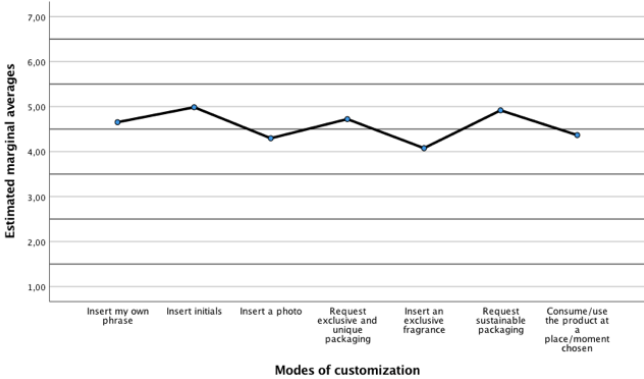
the analyses are significant. Attitude determines a difference in attitude with respect to all variables. Being much or little interested in customization automatically determines an impact.

Table 3: Attitudes toward modes of packaging personalization

	F	Sign.
Attitudes toward insert a phrase	89.752	<.001
Attitudes toward insert initials	83.041	<.001
Attitudes toward insert a photo	69.137	<.001
Attitudes toward having a unique packaging	56.025	<.001
Attitudes toward insert an exclusive perfume	44.554	<.001
Attitudes toward having a sustainable packaging	25.631	<.001
Attitudes toward using the product in a unique place	38.808	<.001

It has been performed a Bonferroni posthoc test to understand and deepen the significance. Specifically, it appears that all differences are significant and that those who are most interested always have a significantly higher mean. Those who are most interested generally show greater interest in different types of customization than those who are moderately or totally not interested. Moreover, in order to understand which typologies of packaging personalization were most interesting for respondents among the alternatives in the survey, a pairwise ANOVA was done since it allows to control and test the difference between multiple variables. As it can be seen from Figure 2, the variable “Insert initials” is the most interesting for respondents compared to the others, while the less interesting is the variable "Insert an exclusive fragrance”.

Figure 2: Estimated marginal averages question 5



Discussion

Significant diversity emerged from the analysis. Regarding motivation, all variables considered in the survey were found to be significant for respondents; moreover, it was analyzed which one was the most important and it was found that respondents would be driven to purchase customized products “To make a personal gift to someone they care about”. In addition, in terms of how they were personalized, respondents said they were most interested in “Insert initials” and less interested in “Insert exclusive fragrance”.

Conclusions

Personalization is one of the most popular marketing strategies among businesses that is developing in the last years, including in the food and beverage industry.

However, especially in the food and beverage industry, the personalization demanded by consumers often concerns packaging, which is no longer only a container to protect the product during transportation but becomes a communication tool aimed at expressing the buyer's personality.

Products with personalized packaging thus become instrumental in conveying values and meanings and are increasingly purchased and consumed precisely because of the symbolic value they are able to express, even becoming a potential gift object.

Limitations

The study has the merit of contributing to the advancement of knowledge related to the topic of packaging personalization in the food industry, a topic that is still under-researched in the literature. However, the interpretation and generalization of the results presented must take into account some limitations. First, the sample may not be representative of the Italian population, and the analysis did not take a cross-sectoral approach. Moreover, some types of packaging personalization were tested only by three academic experts who had experience in personalization research.

Further Research

Future developments of the present study may be geared toward understanding the impact of different forms of personalization on purchase motivation, delving deeper at the qualitative level by interviewing those interested in personalization. It might be interesting to verify also the results achieved verifying if the results obtained, relating to motivation or attitude, can change in comparison with cross-sectoral or sociodemographic segmentation variables.

Managerial Implications

In terms of managerial implications, food companies must carefully understand consumers' motivation and attitude toward purchasing a product whose packaging is personalized as well as the methods of personalization required by the consumer himself.

Motivation and attitude can affect the consumer's willingness to pay a premium price, while the methods of personalization often affect both the cost and time of supply as well as generate new challenges related to the management of a more complex and changing environment.

References

- Aksoy, N. C., Kabadayi, E. T., Yilmaz, C., Alan, A. K. (2021). A typology of personalisation practices in marketing in the digital age. *Journal of Marketing Management*, vol. 37, n. 11–12, pp.1091–1122.
- Ayyıldız, F., & Şahin, G. (2022). Effect of social media addiction on eating behavior, body weight and life satisfaction during pandemic period. *British Food Journal*.
- Boland, M. (2006). Perspective: Mass customisation of food. *Journal of the Science of Food and Agriculture*, 86(1), 7–9.
- Boland, M. (2008). Innovation in the food industry: Personalised nutrition and mass customization. *Innovation: Management, Policy & Practice*, 10(1), 53–60.
- Chandra, S., Verma, S., Lim, W. M., Kumar, S., Donthu, N. (2022). Personalization in personalized marketing: Trends and ways forward. *Psychology & Marketing*, vol.39, n.8, pp. 1529-1562.
- Chang, S., Van Witteloostuijn, A., Eden, L. (2010). From the editors: Common Method Variance in International Business Research, *Journal of International Business Studies*, vol. 41, n. 2, pp. 178-184.

- Chen, L., Cui, Y., & Lee, H. L. (2020). On-Demand Customization and Channel Strategies. In *Channel Strategies and Marketing Mix in a Connected World* (pp. 165-192). Springer, Cham.
- Gómez, M., Martín-Consuegra, D., & Molina, A. (2015). The importance of packaging in purchase and usage behaviour. *International journal of Consumer studies*, 39(3), 203-211.
- Gustiani, S., Ridhwan, M., & Yusri, Y. (2022). The Impact of English on Products Branding in a Non-Speaking English Area: Customers' Perception. *Edukasi: Jurnal Pendidikan dan Pengajaran*, 34-50.
- Kolb, M., Blazek, P., & Streichsbier, C. (2014). Food customization: An analysis of product configurators in the food industry. In *Proceedings of the 7th World Conference on Mass Customization, Personalization, and Co-Creation (MCPC 2014)*, Aalborg, Denmark, February 4th-7th, 2014 (pp. 229-239). Springer, Cham.
- Kotler, P., Armstrong, G., Saunders, J., & Wong, V., (2001). Principles of Marketing, 2nd edition. *Corporate Communications: An International Journal*
- Leathered food research (2019). Feeding the food and beverage personalisation trend.
- Lin, C. L., Chen, C. W., & Tzeng, G. H. (2010). Planning the development strategy for the mobile communication package based on consumers' choice preferences. *Expert Systems with Applications*, 37(7), 4749-4760.
- Matthews, J., McIntosh, R., & Mullineux, G. (2011). Contrasting opportunities for mass customization in food manufacture and food process. In F. S. Fogliatto & G. J. C. da Silveira (Eds.), *Mass Customization: Engineering and Managing Global Operations* (pp. 353-374). Springer.
- Matthews, J., Singh, B., Mullineux, G., & Medland, T. (2006). Constraint-based approach to investigate the process flexibility of food processing equipment. *Computers & Industrial Engineering*, 51(4), 809-820.
- McIntosh, R. I., Matthews, J., Mullineux, G., & Medland, A. J. (2010). Late customisation: Issues of mass customisation in the food industry. *International Journal of Production Research*, 48(6), 1557-1574.
- Miceli, T. J., & Sirmans, C. F. (2007). The holdout problem, urban sprawl, and eminent domain. *Journal of Housing Economics*, 16(3-4), 309-319.
- Montgomery, A. L., & Smith, M. D. (2009). Prospects for Personalization on the Internet. *Journal of Interactive Marketing*, 23(2), 130-137.
- Nagpal, A., Lei, J., & Khare, A. (2015). To choose or to reject: The effect of decision frame on food customization decisions. *Journal of Retailing*, 91(3), 422-435.
- Nomisma (2019). Observatory on Consumer Product Packaging.
- Peppers, D., Rogers, M. (1993). The one to one future: Building relationships one customer at a time. *New York: Currency Doubleday*.
- Pine B.J. (1993). Mass customization. The new frontier in business competition. *Harvard Business School Press*, Boston, MA.
- Schafer, R. (2013). What's new in packaging. *Snack Food Wholes. Bak*, 102, 54-59.
- Sharma, K., (2020). From mass production to customisation, here is how brand packaging has evolved over the years. *Business insider India*.
- Simonson, I. (2005). Determinants of customers' responses to customized offers: Conceptual framework and research propositions. *Journal of marketing*, 69(1), 32-45.
- Thomke S., von Hippel E. (2002). Customers as Innovators: A New Way to Create Value. *Harvard Business Review*, 80 (4), pp. 74-81.
- Vehmas, K., Lavrusheva, O., Seisto, A., Poutanen, K., & Nordlund, E. (2019). Consumer insight on a snack machine producing healthy and customized foods at point of consumption. *British Food Journal*.

Wedowati, E. R., Singgih, M. L., & Gunarta, I. K. (2016, December). Design for mass customization in food industry: Literature review and research agenda. *In Proceedings of the 7th International Conference on Operations and Supply Chain Management (OSCM)* (pp. 726-737).