

**THE INFLUENCE OF MILK PACKAGING
ON PURCHASE DECISIONS OF UNIVERSITY STUDENTS
IN OSTROŁĘKA COUNTY**

Zdzisław Kochanowicz

Warsaw Higher School of Economics Poland

Justyna Balcerzak

Maria Grzegorzewska University, Poland

Piotr Bórawski

University of Warmia and Mazury in Olsztyn, Poland

INTRODUCTION

The Polish milk market is growing rapidly. According to the Organisation for Economic Cooperation and Development (OECD) and the Food and Agriculture Organization of the United Nations (FAO), milk production in 2022 is expected to increase by 19.8% relative to 2012. During that period, average annual production will grow by more than 2%. In absolute terms, milk supply will increase by 134.4 million tonnes, from 755.3 million in 2012 to 905.2 million in 2022 [WWW 2]. In 2000, 56.3% of total milk production was sold to the dairy industry, and this percentage increased to 65.7% in 2004. Raw milk is the main ingredient of many dairy products, including cream, processed milk, butter, cottage cheese, yogurt, processed cheese, kefir and powdered milk [Otoliński and Szarek 2006].

Milk produced in agricultural farms and supplied to dairy processing plants is one of the most popular food commodities traded in the world. The growth rate of the Polish dairy market is determined by global trends, including poverty indicators and consumer behaviour. It is also influenced by market competition, large-scale dairy farming and the growing significance of supermarkets in the milk supply chain. The profitability of milk production is also affected by buyers' expectations concerning product quality, promotions and the timeliness of deliveries [Czyżewski and Guth 2016].

According to the Radom Branch Office of the Agricultural Advisory Centre in Brwinów:

- The growth of the dairy industry is driven mainly by the forces of supply and demand. According to Ginalska, the author of the report, the global demand for milk and dairy products is likely to increase in response to population growth and higher levels of income;
- Milk production in agricultural farms continues to increase, but Polish producers have not gained a competitive advantage on foreign markets. The highest profitability index is noted in large-scale farms characterised by intensive land use and high-input farming systems. Effective organisation and large-scale production contribute to the development of the dairy industry;
- Poland's transition to a market economy has influenced the development of the milk market. Economic changes have shifted the buyers' focus to the quality of purchased milk, and new standards concerning product quality and the organisation of the production process were imposed on dairy farmers;
- The Polish milk market is also characterised by regional variation. The highest growth rate is noted in the regions of Podlasie, Mazowsze and, partly, Warmia and Mazury, whereas milk production continues to decrease in the regions of Podkarpacie and Małopolska.

The report developed by the Radom Branch Office of the Agricultural Advisory Centre in Brwinów contains the following guidelines and recommendations [Ginalska 2014]:

- Poland should implement a cohesive development strategy for the milk market. Those efforts should include the introduction of safety and production control regulations to minimise the risk of market fluctuations;
- Milk production is a highly labour- and capital-intensive process relative to other types of agricultural activities. Raw milk prices and the subsidies paid to milk farmers should be set at an attractive level to encourage production;
- The existing system of milk subsidies does not encourage farmers to become involved in this highly labour-intensive segment of agriculture. Payments are made per hectare rather than per units of output, which supports the interests of land owners and not producers;
- An educational programme should be introduced for milk producers (farmers). The transfer of knowledge relating to innovative technologies and business solutions would undoubtedly contribute to progress in the milk industry.

In an attempt to increase their competitive advantage on the market, dairy companies increasingly often conduct marketing surveys to explore their customers' opinions and buying preferences [Dziadkowiec 2014].

According to a market survey carried out by the National Association of Dairy Cooperatives, entitled "An analysis of consumer behaviours on the milk and dairy market", promotion and advertising are strongly related with a brand's position in the marketplace. The top seven dairy producers are companies that invest heavily in marketing. They are: SM Mlekpól, Zott Polska, Bakoma, Mlekovita, OSM Piątek and OSM Łowicz. Those brands occupy a strong position on the Polish dairy market [WWW 1].

Buying behaviour on the dairy market is determined by the consumers' purchasing power and specific preferences. There are various types of consumers on the market ana-

lysed [Adamczyk et al. 2002]. Consumer behaviour refers to the actions and processes used by consumers to satisfy their needs through the purchase of goods and services that match their individual preferences. Human needs fall into three general categories: physiological, psychological and social [Lemanowicz and Szwacka-Mokrzycka 2011].

Market segmentation contributes to the development of products tailored to the specific needs and expectations of consumers, thus increasing a given brand's share of the market. In a study entitled "Dairy consumers", Górska-Warsewicz has identified the following groups of dairy consumers whose specific preferences influence their buying decisions:

- average and traditional consumers – these consumers do not actively search for new products, they have conservative preferences and expectations, and they tend to focus on the best value for money. These consumers buy mostly traditional products, including rennet cheese, cottage cheese, yogurt, cottage and processed cheese with traditional flavors, milk in plastic bags, UHT milk, kefir and buttermilk [Górska-Warsewicz 2006];
- consumers who are loyal to products and brands – these consumers often belong to higher-income groups, and they focus on product quality. They opt for tested products that deliver high quality, and they are not willing to search for alternatives. These consumers generally narrow their choices to two or three brands [Górska-Warsewicz 2006];
- modern consumers who search for innovative products – these consumers search for products with a new or modified flavour, they pay attention to the nutritional value of foods, functional additives and type of packaging. They are not loyal to a single brand, and they select products that best meet their needs. They are more likely to focus on convenience than price [Garbowski et al. 2010].

Research into consumer preferences on the dairy market provides producers with vital information. Consumer preferences are analysed to ensure that the products offered best meet the customers' needs and expectations. Customer satisfaction plays a very important role in business because it contributes to sales and profit stability. A company that successfully builds customer loyalty will be able to develop products that are tailored to the buyers' specific preferences [Bórawski and Grzybowska-Brzezińska 2015].

This paper analyses the influence of milk packaging on the buying decisions of university students in Ostrołęka county. There are various definitions of product packaging in the literature. Most of them state that packaging consists of materials that are used for enclosing and protecting products with the aim of delivering them to the consumer in an unaltered state. Modern packaging is also designed to increase a product's attractiveness, make a positive impression on consumers and encourage them to buy the product [Ciechomski 2008].

Product packaging is an important part of a company's marketing strategy, which targets consumers' specific needs and preferences. Buyers focus on product attributes that constitute core benefits. The core product is focused on the dominant benefit that a customer expects from a good or service, and it can be both tangible and intangible. For the core product to be transformed into the actual product, it has to feature attributes that are expected by the buyer, such as functional and attractive packaging or appealing design. The actual product is often referred to as the "packaging" of the core product. Additional

attributes contribute to product quality, and together with the core product, they make up the actual product.

Product packaging plays a very important role in commerce. It is responsible for a product's visual appeal, it facilitates product use and dosage, and it keeps the product fresh. Most food products cannot exist without packaging. The product and its packaging are inextricably linked [Klonowska-Matynia 2010].

RESEARCH OBJECTIVE, MATERIALS AND METHODS

The aim of this study was to evaluate the influence of milk packaging on the buying decisions of university students in Ostrołęka county. The main research objective was achieved by pursuing the following specific objectives:

- to evaluate the influence of milk packaging on the purchase decisions of university students in Ostrołęka county;
- to determine the influence of packaging on consumers' perceptions regarding milk quality;
- to determine how often university students in Ostrołęka county purchase milk in different types of packaging;
- to evaluate the significance of esthetic attributes of milk packaging on the buying decisions of the surveyed consumer group.

The main research objective was pursued by answering the following questions:

- Does milk packaging significantly influence the buying decisions of university students in Ostrołęka county?
- Does packaging influence the respondents' perceptions of milk quality?
- What type of milk packaging is most frequently selected by the surveyed consumers?
- Are there any differences in the perceived significance of esthetic attributes of milk packaging that influence the buying decisions of the surveyed population?

The following research hypotheses were formulated to justify the selection of the research problem:

- milk packaging is a significant determinant of the buying decisions of university students in Ostrołęka county;
- plastic bottles with a screw top cap are the most popular type of milk packaging in the surveyed population.

The formulated research hypotheses were tested in a customer survey with the use of a questionnaire. The factors that influenced the respondents' choices were evaluated on a scale of 1 to 5 points, where 5 was the highest mark. The results of the survey were analysed with the use of graphic and descriptive methods.

The surveyed group consisted of 98 university students who purchased milk in Ostrołęka. The respondents were second-year and third-year students majoring in business management at the Higher School of Economics and Social Studies in Ostrołęka. The respondents were selected by purposive sampling from the population of second-year and third-year students willing to participate in the study. The survey was carried out between 5 and 19 March 2016.

RESULTS AND DISCUSSION

In a centrally-planned economy, packaging was regarded merely as a means to protect the product from damage or contamination. The transition to a market economy emphasized the significance of competition [Nowogródzka et al. 2014]. According to the cited survey of the National Association of Dairy Cooperatives, dairy producers with the strongest brands have the highest share of the market.

The marketing mix is a business tool for attaining competitive advantage in a market. In addition to its four principal components, namely product, price, promotion and distribution, packaging also plays a primary role in the marketing mix. Therefore, packaging is an important marketing tool which increases the effectiveness of marketing communication.

The results of marketing surveys indicate that consumers are increasingly likely to base their purchase decisions on packaging as an indicator of product quality [Dejnaka 2011]. According to Jerzyk, packaging is a modern tool in integrated marketing strategies. From among various marketing materials at the point of sale, packaging is a key determinant of consumers' buying decisions [Jerzyk 2014]. The role of packaging has increased significantly and irreversibly in recent years. Packaging protects the product, facilitates its transport, conveys product and brand information, acts as a promotional and advertising tool, and encourages consumers to make a purchase [Krzepicka 2011].

This study evaluated the influence of milk packaging on the buying decisions of university students in Ostrołęka county. For 49 respondents, packaging did not significantly influence their choice of milk brand, while the remaining 48 subjects expressed the opposite view (Fig. 1).

The respondents were also asked whether they regarded packaging as an indicator of product quality. For 59 subjects, packaging was not in any way linked with the quality of the milk, while 39 respondents claimed that packaging attested to product quality

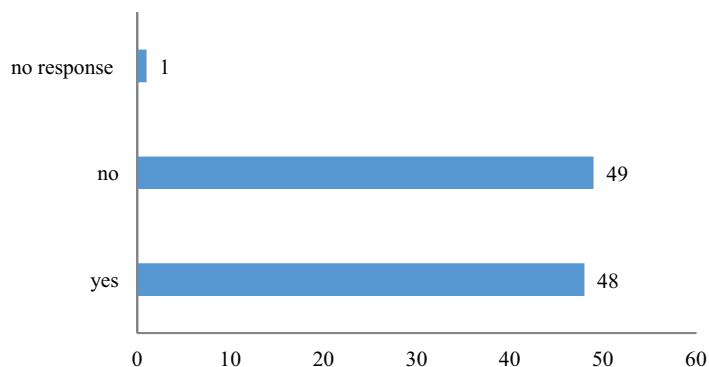


FIG. 1. The respondents' answers to the question "Does milk packaging significantly influence your buying decision?"

Source: the authors, based on the results of the study.

(Fig. 2). The results indicate that more than two-thirds of the surveyed population did not judge milk quality based on its packaging.

In the following question, the respondents were asked to specify how often they purchased milk in the following types of packaging: carton with a plastic clip (ReCap), carton with a screw-top cap, non-resealable carton (one of the corners has to be cut to pour the milk), Pure-Pak (without a cap), Tetra Rex (with a cap), Tetra Top (rounded corners, large screw-top cap), and a plastic bottle with a screw-top cap (Fig. 3). The most popular types of packaging were a plastic bottle with a screw-top cap (48 respondents) and a carton with a screw-top cap (46 respondents). The least popular types of packaging were a ReCap carton with a plastic clip (7 respondents), Tetra Top with rounded corners and a large screw-top cap (7 respondents), Tetra Rex with a cap (4 respondents) and a non-resealable carton where one of the corners has to be cut to pour the milk (2 respondents). None of the respondents had ever purchased milk in Pure-Pak packaging without a cap.

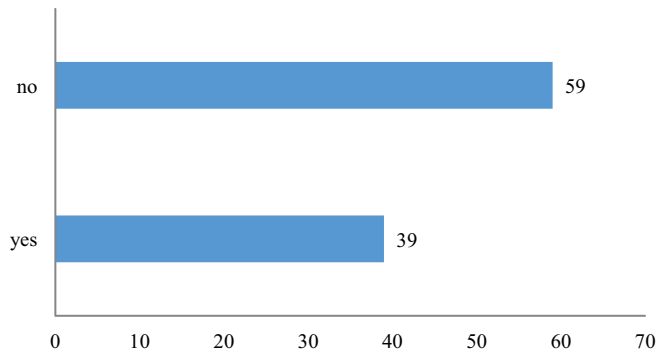


FIG. 2. The respondents' answers to the question "Is milk packaging indicative of product quality?"

Source: the authors, based on the results of the study.

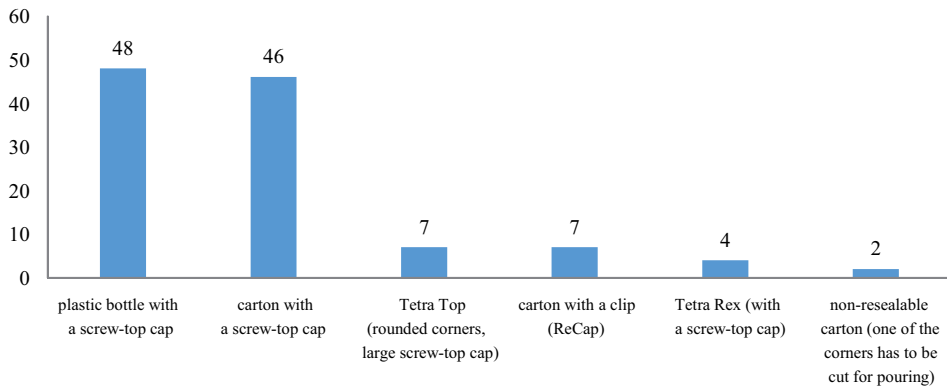


FIG. 3. The most popular types of milk packaging among the respondents

Source: the authors, based on the results of the study.

The surveyed subjects had specific preferences relating to the ease of product storage and use. The respondents were more likely to choose convenient packaging with screw-top caps. In future studies, the main focus should be on the type of packaging only to avoid false positive results where the respondents indicate a given type of packaging based on a habitually purchased brand of milk.

The respondents were also asked to evaluate the importance of different aesthetic attributes of milk packaging in their buying decisions. The most significant determinants of their buying behavior were attractive packaging (2.98 points on average) and shape of the packaging (2.92). The color of the packaging (2.85), brand, printed message and font (2.83) were regarded as less important – Figure 4. However, all of the evaluated attributes received similar average scores (deviation of 0.15), so they should be regarded as equally significant.

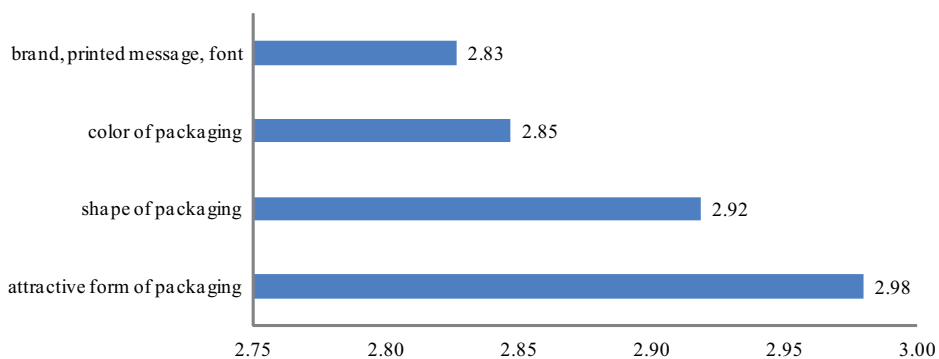


FIG. 4. The significance of aesthetic attributes of milk packaging in the respondents' buying decisions (points) on a scale of 1 to 5 points, where 5 denotes the highest significance

Source: the authors, based on the results of the study.

CONCLUSIONS

A frequently purchased food product, milk is an essential and the most nutritious component of the human diet, and an abundant source of calcium. Milk and dairy products significantly contribute to health and minimize the risk of lifestyle diseases in all age groups. The observed demographic changes and growing awareness about healthy nutrition suggest that the demand for milk and dairy products will increase, thus stimulating the growth of the milk market.

The following conclusions can be formulated based on the results of this study:

- Milk packaging does not significantly influence consumers' buying decisions. In this study, packaging was not an important criterion in the choice of a milk brand for more than half of the surveyed respondents.
- Packaging can influence consumers' perceptions of product quality, which creates new challenges for milk and dairy producers. However, packaging is not the main determinant of perceived quality, and in this study, only one in three respondents declared that packaging could be indicative of product quality.

- The most popular types of milk packaging in this study were a bottle with a screw-top cap and a carton with a screw-top cap. This indicates that the respondents valued convenient solutions that facilitate product use and storage. The students were more likely to buy milk in convenient screw-top packaging.
- An evaluation of the aesthetic attributes of packaging that influence consumers' buying behavior indicates that the following attributes were equally important for the surveyed subjects: attractive form of packaging, shape of packaging, color of packaging, brand, printed message and font.

The survey bears out the hypothesis: packaging is an important determinant of students' buying decisions. It also has an impact on the perception of milk quality in respondent's opinions.

REFERENCES

- ADAMCZYK G., TARANT S., TRĘBACZ A., 2002. Zachowania konsumentów na rynku mleka spożywczego (Consumer behavior on the milk market – in Polish), *Roczniki Akademii Rolniczej w Poznaniu* 343, 43–52.
- BÓRAWSKI P., GRZYBOWSKA-BRZEZIŃSKA M., 2015. Student preferences on the milk market, *Annals of Marketing Management and Economics* 1, 2, 15–23.
- CIECHOMSKI W., 2008. Opakowanie jako instrument promocji (Packaging as an instrument of promotion – in Polish), *Akademia Ekonomiczna w Poznaniu, LogForum* 4, 1–8.
- CZYŻEWSKI A., GUTH M., 2016. Zróżnicowanie produkcji mleka w makroregionach Unii Europejskiej z wyróżnieniem Polski (Differentiation of milk production in the macro-regions of the European Union with special emphasis on Poland – in Polish), PWN, Warszawa.
- DEJNAKA A., 2011. Opakowanie jako narzędzie wpływania na wybory konsumentów (Packaging as a tool to influence consumers' choices – in Polish), *Zeszyty Naukowe Wyższej Szkoły Bankowej we Wrocławiu* 23, 131–143.
- DZIADKOWIEC J., 2014. Preferencje konsumentów usług gastronomicznych (Consumer preferences of catering services – in Polish), *Prace Naukowe Akademii im. Jana Długosza w Częstochowie* 8, 63–74.
- GINALSKA B., 2014. Rynek mleka w nowej perspektywie (A new perspective on the milk market – in Polish), *Centrum Doradztwa Rolniczego w Brwinowie Oddział w Radomiu*, 1–28.
- GARBOWSKI M., RADZYMIŃSKA M., GARBOWSKA B., 2010. Konsument na rynku produktów mleczarskich z uwzględnieniem jogurtów (The consumer market of dairy products including yoghurts – in Polish), *Zeszyty Naukowe Ostrołęckiego Towarzystwa Naukowego* 24, 148–156.
- GÓRSKA-WARSEWICZ H., 2006. Konsumenti produktów mleczarskich (Consumers of dairy products – in Polish), *Przemysł Spożywczy* 10, 18–22.
- JERZYK E., 2014. Design opakowania i jego elementy w procesie podejmowania decyzji zakupowych (Design packaging and its components in the process of making purchase decisions – in Polish), *Marketing i Rynek* 4, 391–398.
- KLONOWSKA-MATYNIA M., 2010. Znaczenie cech użytkowych opakowania w procesie zakupu produktów mleczarskich (The importance of the functional characteristics of packaging in the purchasing of dairy products – in Polish), *Zeszyty Naukowe Wydziału Nauk Ekonomicznych Politechniki Koszalińskiej* 14, 227–233.

- KRZEPICKA A., 2011. Opakowanie jako wartość dla polskiego klienta (Packaging as a value for the Polish customer – in Polish), *Studies & Proceedings of Polish Association for Knowledge Management* 52, 210–220.
- LEMANOWICZ M., SZWACKA-MOKRZYCKA J., 2011. Preferencje polskich konsumentów na rynku przetworów mleczarskich w latach 2004–2008 (Preferences of Polish consumers in the market for dairy products in 2004–2008 – in Polish), *Zeszyty Naukowe SGGW, Ekonomika i Organizacja Gospodarki Żywnościowej* 93, 93–106.
- NOWOGRÓDZKA, PIENIAK-LENDZION K., NYSZK W., 2014. Wzrost znaczenia opakowań w procesie komunikacji rynkowej przedsiębiorstw (The increasing importance of packaging in enterprise marketing communication – in Polish), *Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego w Siedlcach, Administracja i Zarządzanie* 103, 67–85.
- OTOLIŃSKI E., SZAREK J., 2006. Rynek mleka w Polsce (The milk market in Poland – in Polish), *Wiadomości Zootechniczne* 44, 31–49.
- WWW 1. <http://www.mleczarstwopolskie.pl>, electronic document [accessed: 19.08.2016].
- WWW 2. <http://ksow.gov.pl/rynki-rolne/rynek-mleka-i-produktow-mleczarskich.html>, electronic document [accessed: 19.08.2016].

Summary. The aim of this study was to evaluate the influence of milk packaging on the buying decisions of university students in Ostrołęka county. The group surveyed consisted of 98 university students who purchased milk in Ostrołęka. The respondents were second-year and third-year students majoring in business management at the Higher School of Economics and Social Studies in Ostrołęka. The respondents were selected by purposive sampling from the population of second-year and third-year students willing to participate in the study. Most respondents were of the opinion that milk packaging was neither a significant determinant of their buying decisions nor a major indicator of product quality.

Key words: packaging, consumers, milk market

JEL: D11, Q13

Corresponding author: Piotr Bórawski, University of Warmia and Mazury in Olsztyn, Department of Agrotechnology, Agricultural Production Management and Agribusiness, Plac Łódzki 2, 10-957 Olsztyn, Poland, e-mail: pboraw@uwm.edu.pl