

PRODUCT INNOVATIVENESS AND ITS IMPACT ON HEALTH RELATED IMPORTANCE OF FOOD IN THE CATERING BUSINESS

Iwona Kowalczyk, Krystyna Gutkowska, Marta Sajdakowska,
Sylwia Żakowska-Biemans

Warsaw University of Life Sciences – SGGW

Abstract. The objective of the study was to learn the opinions of representatives of gastronomy businesses regarding product innovativeness of the sector, with a focus on healthy solutions. The qualitative study of this issue was conducted with in-depth interviews with owners and managers of food service establishments. It was found, that actions (related to products and production technology) increasing the positive impact of menu on customers' health are taken, however to a limited degree. It was also recorded, that kitchen staff and waiters alike have little interest in introducing or promoting innovations. The conducted studies reveal a great potential of the gastronomy market in promoting healthy products, however in order to realize it, employees must be educated.

Key words: food service market, innovation, functional foods

INTRODUCTION

In modern economy, in order to gain a competitive advantage one must systematically introduce new or improved solutions in production, processes, marketing and organization [Lewandowska 2014]. Innovativeness is presently a must – according to Littler [1982] entrepreneurs resort to innovation in order to outlast or outdo their competition. Pomykalski states [2001], that lack of innovation is far more dangerous to an enterprise than the risk of its (innovation's) failure, because it can put in jeopardy not only the enterprise's competitive position, but also its very survival in the market. Observations of the market practice confirm the statements above.

Corresponding author: Iwona Kowalska, Warsaw University of Life Sciences – SGGW, Faculty of Human Nutrition and Consumer Sciences, Department of Organization and Consumption Economics, 02-776 Warszawa, Nowoursynowska 159C, Poland, e-mail: iwona_kowalczyk@sggw.pl

© Copyright by Warsaw University of Life Sciences Press, Warsaw 2016

In terms of market success of an enterprise, new products comprise an important group of innovations, due to their increasing significance in marking the level and speed of sales growth, market share and consequently the competitive position of an enterprise [Lemano-wicz 2015]. The driving forces for development of new products are [Krawiec 2000]:

- worldwide advancement of the technological base and know-how;
- changes in consumers' needs, expectations and preferences;
- gradual shortening of products' life cycles;
- opening of foreign markets, globally increasing competition [Krawiec 2000].

According to Surmacka-Szcześniak [1995], in the food market, the practice of innovative solutions allows to extract the following categories of new food products: new products complimenting previous product lines e.g. with new flavors (line extension), new products created by market displacement or new applications of an existing product (changing the product's image in consumer's perception), repositioned products, products with new physical form, products with an altered recipe, products with a new package, innovatory products, creative products. Another example of a division which takes into account the specifics of food assortment might be the new food categories introduced by Tuorilla [2001] i.e. functional foods, foods with modified composition, genetically modified foods, organic foods and ethnic foods. Dekker and Linnemann [1997] extracted four generations of new food products:

1. Progress in food preservation and production of microbiologically safer food with longer expiration dates.
2. Combining the nutritional value and flavor requirements.
3. Convenience in using products and preparing food – expansion of convenient food market.
4. Protecting or improving consumers' health – expansion of functional food market.

It should be noted that specifically the healthy foods segment sees the most product innovations. In Poland and Europe, products with documented positive impact on health are mostly introduced in the cereal and dairy sectors, whereas in the US and Japan functional soft drinks, cereal products and pastries are the most popular ones [Kiedrowski 2007].

THE DIRECTIONS OF CHANGES IN THE FOOD SERVICE MARKET

Food service plays a significant part in the process of food market development, including its innovativeness. This stems from the unique position of the sector and its ties with different areas of the food market, including:

1. Maintaining business relations with suppliers from various branches. This in turn allows caterers to not only obtain knowledge about the novelties on the market and innovative directions, but also to inspire changes in this area.
2. Processing acquired raw materials and producing dishes, which allows to exercise creativity and innovativeness.
3. Direct contact with the customer through the service process, which allows caterers to acquire information about consumer expectations on one hand, and to propagate information about novelties in the market and encourage consumers to take interest in the innovative offer on the other.

Between years 2000 and 2014 Polish food service market has experienced pro-quality changes. Overall number of food service establishments has dropped (by nearly 20%); however, the number of restaurants, which provide a higher standard of food services, has doubled [*Roczniki Statystyczne 2001–2015*]. According to prognoses, by 2016 all food service enterprises will record an increase in sales, and the most spectacular growth is predicted for fast-food outlets, home deliveries sector, pizzerias and restaurants [Oksiński 2012].

Changes in the food services market affect various aspects of the business. New concepts of food services are introduced (fast casual, upper casual, coffee bars, vegetarian bars or ethnic eateries) [Levytska 2011]. Existing companies systematically expand their menus with dishes from different cuisines and combining them with Polish dishes (fusion cuisine). There is also an increase in the number of places offering molecular cuisine dishes [Bartkowska 2013]. New forms of meals are offered as well (lunch, brunch, breakfast offer) [*Na dobry...* 2008]. Food service businesses employ increasingly new and advanced technologies in the production of dishes, which is made possible by changes in construction and parameters of machines and appliances in gastronomy [Rodgers 2007]. A significant diversification of prices is also taking place in gastronomy – the market hosts inexpensive bars as well as luxurious restaurants, which increases the economic accessibility of this sector. An intensified distribution is also observed – food services are available in workplaces, at schools, entertainment centers and increasingly often in shopping centers [Levytska 2011], catering is growing in popularity as well. A GfK research from 2014 found a dynamic growth in additional services such as the Internet access, television or accepting payment cards [Stępnia 2015]. Food service businesses are expanding their area of activities, combining them with other services, which results in such enterprises like bookstores/cafes, children- or animal-friendly places. Computer programs improving work organization are growing in popularity, including those facilitating customer service.

Due to growing incomes and an expanding offer in food services, Poles are more inclined to use those services and spend more on them (from 7.6 PLN monthly per person in 2000 up to 26.5 PLN in 2014) [*Budżety gospodarstw domowych 2001–2015*]. Besides economic factors, the increase in demand is also fostered by demography (increase in number of 1- and 2-person households), socio-professional factors (increase in professional activity among women), culture (lifestyle changes) and marketing.

Growing importance of gastronomy in satisfying the nutritional needs results in an increasing influence of this sector on consumers' eating habits, health-awareness included. Gastronomy can play a significant role in promoting healthy eating, e.g. through using and offering functional products, i.e. those with a documented impact on health [Dekker and Linnemann 1997, Tuorila 2001, Świdorski 2003, Kiedrowski 2007, Siro et al. 2008, Starling 2010] as well as products with enhanced healthy properties [Cygan et al.].

The goal of the study was to learn the opinions of food service business representatives regarding product innovativeness of the sector (including the use of functional foods available on the market), identifying actions taken in food service businesses in order to increase the healthiness of the dishes, as well as to gather information about means of popularizing this kind of products and enticing customers' interest in healthier menus.

MATERIAL AND METHODS

The qualitative study has been carried out in 2013 using in-depth, partially structured, individual interviews. Owners and managers of selected enterprises were interviewed following an original script. The sample was selected with the gastronomy business structure taken into account (quota selection) (Table 1). The study was realized as a part of the *Biofoods – innovative, functional animal products* project.

Table 1. Structure of the examined establishments in 2013

Type of establishment	Sector structure (%)	Number of interviews
Restaurants	22.2	5
Bars/Pubs	37.9	7
Cafeterias and canteens	6.3	2
Catering outlets	33.5	6

Source: GUS statistical yearbook 2012, study realized as a part of the Biofoods project.

At a time and place agreed upon with the interviewees, 20 interviews have been conducted concerning the issues touched upon in the objective of the study (the interviewees' characteristics are presented in Table 2). The informative basis for the report was analysis of the notes taken during the interviews.

Table 2. Characteristics of the interviewees

Highlighting	Number of interviewees
Number of employees	
Up to 5	4
5–9	10
10–19	4
20–49	2
50 and more	0
Ownership	
Private	20
Public	0
Location	
Rural areas	0
Town of up to 20 thousand	6
Town of 20–99 thousand	3
City of 100–499 thousand	4
City over 500 thousand	7
Operating time	
Up to 5 years	8
5–10 years	7
Over 10 years	5

Source: Study realized as a part of the Biofoods project.

RESULTS

Directions of innovation in gastronomy

Based on the results it may be said, that 2013 was significantly better in terms of product innovativeness than previous years (2010–2012). However, none of the interviewees has reported new or significantly improved products being created in the enterprise in either of time intervals. In the area of process innovations, in both time intervals about half of the enterprises have introduced new production technologies. Over half of them have employed new or significantly improved methods of supporting processes in the enterprise. The highest number of innovations have been introduced in logistics, with 16 enterprises employing new or significantly improved processes in 2010–2012 and 18 in 2013. Innovations in organization, particularly of work, have been introduced in 13 enterprises in 2010–2012 and 19 in 2013. A similar intensification was observed in the area of information exchange and relations with environment in 2013. As for marketing innovations, the most popular actions were: modifying the appearance of dishes, employing new forms of sales and communication with the customer. Altering the appearance of establishment or its surroundings proved to be less common (Table 3).

Table 3. Directions of innovations in the examined gastronomic enterprises (number of answers, $n = 20$)

Factor	Directions of innovative actions	2010–2012		2013	
		Yes	No	Yes	No
Product	new or significantly improved products for the company	10	10	18	2
	new or significantly improved products for the market	0	20	0	20
Processes	new or significantly improved production technologies	10	10	9	11
	new or significantly improved logistic and distribution processes	16	4	20	0
	new or significantly improved methods of supporting processes in the enterprise (supply, bookkeeping)	11	9	13	7
Organization	new or significantly improved systems for internal exchange of information, knowledge and skills	2	18	16	4
	significant changes in work organization	13	7	19	1
	new or significantly improved relations with other companies (cooperation, outsourcing, subcontracting)	9	11	17	3
Marketing	significant changes in appearance of the dishes	19	1	20	0
	significant changes in the appearance of the establishment and/or its surroundings	18	2	9	11
	new or significantly altered sales methods (sales through the Internet, takeaway, franchising etc.)	8	12	20	0
	new methods of communicating with the customer	5	15	15	5

Source: Study realized as a part of the Biofoods project.

Directions of innovation taken in the examined companies were diversified, however a prevalence of actions related to meat- and giblets-based products were observed. Six interviewees reported, that their enterprises have introduced in general more items containing meat to the menu in response to an increasing customers' interest in such dishes. The same reason was given for introducing meat-based fast-food dishes in four of the examined bars. Four interviewees stated that consumer interest in beef is growing, which might mean an expanding offer of beef-based dishes. Canteens, too, add meat dishes to the menu, and their managers report an increasing popularity of giblets. They also declared introducing new dairy-based dishes, stressing the fact, that their main motivation is decreasing the expenses, which met with moderate acceptance among the customers.

The gastronomic offer is also developing towards ethnic foods – six interviewees declared introducing dishes from foreign cuisines, mainly Italian and Chinese. Three interviewees (representing restaurants) reported experimenting with molecular cuisine in their establishments.

Actions promoting healthy solutions

Sixteen interviewees declared introducing changes involving healthy solutions, which is an important direction for product innovativeness in gastronomy. Nine of them reported introducing dietetic dishes to the menu, most of which were low-fat. Seven interviewees stated, that the menu has been expanded with dishes based on organic stock – in one case it was organic cottage cheese, and in the other – organic eggs. Ten subjects expressed their opinion, that a growing customers' interest in lunch salads resulted in expanding the offer with more such items.

During the interviews it became apparent that the interviewees had a problem with defining what functional foods are. Most of them did not understand the concept, and nearly half associated it with convenience rather than a positive impact on health. Having the term explained, 12 of them concluded that they do not identify many of the healthy products, and when asked for examples, pointed mainly to Actimel and low-fat dairy products. The most popular functional animal products used in kitchen were dairy products, especially low-fat yoghurts (6 interviewees) and cottage cheeses (5 interviewees). Two people declared using low-cholesterol eggs, and five stated that they use organic products, which also affects the “healthiness” of the dishes.

According to the interviewees' answers, healthy solutions in technological processing are taken with moderation degree and in different directions. The most popular ones are reducing the amount of fats (12 answers) and substituting animal fats with vegetable oils. However, further questioning revealed, that these actions are mainly motivated by reducing costs and convenience of using vegetable oils. Reducing the time of heat processing (8 answers) was also found to be caused by economic circumstances (the price of energy) rather than willingness to preserve the nutritional value of a meal.

A significant number (11) of interviewees reported curbing the use of salt. As an explanation, they stated that customers have varying preferences in this matter and it is better to let them add salt themselves. Only two interviewees declared using salt enriched with potassium – both of them suffering from hypertension, which is symptomatic.

A considerable portion of answers (9) concerned reducing the use of sugar, and three interviewees declared substituting standard white sugar with its healthier alternatives (brown or cane sugar) in their establishments. Fourteen interviewees claimed to offer brown sugar as well as white for sweetening hot drinks, and in six cases sweeteners were also available.

Nine interviewees confirmed using fresh spices, most of them representing restaurants. It was also the restaurant owners/managers who declared limiting the use of sodium glutamate. A small number of interviewees (7) claimed to avoid using allergenic products (considering those to be mostly nuts, citruses, seafood, dairy products and products with gluten).

In seven of the examined establishments frying is substituted with boiling or stewing. In four of them the reason is health, in the others – economy.

Only one in four interviewees confirmed, that the time of storing dishes before serving is being limited in their establishments. Admittedly, the main motivation for that was preserving the sensory qualities, however all of the interviewees were aware, that it also reduces the nutritional value loss.

The least popular products in the technological process were those rich in fiber – only three establishments use them, mostly whole grain breads and pastas.

The structure of the interviewees' answers regarding healthy solutions they include in preparing the menu is presented by data in Table 4.

Table 4. Healthy solutions included in food processing in catering establishments

Types of healthy solutions	%
Using functional products	40
Reducing the use of fat	60
Substituting animal fats with vegetable oils in the technological process	65
Reducing the use of sugar	45
Substituting white sugar	15
Reducing the use of salt	55
Reducing the use of sodium glutamate	20
Using salt with modified composition	10
Reducing the use of allergenic products	35
Using fiber-rich products	15
Using fresh spices	45
Substituting frying with boiling or stewing	35
Reducing the time of heat treatment	40
Reducing the time of storage before serving	25

Source: Study realized as a part of the Biofoods project.

Popularizing the healthy menu

According to the interviewed managers, kitchen staff has little interest in creating and introducing innovative solutions, which is especially true of employees with long work experience and low education. Employees with secondary and higher education exhibit

more initiative in this area, they are also more open to customers' suggestions and more eager to realize their custom requests.

A decisive majority of the interviewees shares an opinion, that women are more interested in introducing healthy solutions, while men are more likely to propose dishes with new flavors, texture or form.

As for the waiters, they are not interested in promoting healthy dishes and mostly do so only when explicitly asked to by manager or a customer. According to the interviewees, such passive attitude is caused by big staff rotation and lack of commitment to the job, as well as insufficient knowledge about nutrition and reluctance to gain it. No specific socio-demographic profile of an innovative waiter could be determined, the only conclusion being that women are slightly more active in this area.

Experiences of the interviewees regarding forms of promoting innovative menu point clearly to the key role of waiters in communicating the information about novelties and therefore eliciting customers' purchasing behaviors (average efficiency rate of 4,2 on a scale from 1 – inefficient form, to 5 – very efficient form). Another efficient form of encouragement are tastings (3.6), although, according to the interviewees, they are not popular among employees nor customers. As for leaflets (3.2), the interviewees consider them an effective form of promoting an establishment, but not so much for promoting new items on the menu. Establishments' websites (3.0) received similar opinions. The interviewees, particularly the younger ones, stressed the importance of advertising on the Internet (2.7), especially on social media, in propagating information about innovations. Similarly to leaflets and websites, outdoor advertising (2.9) is considered a reliable form of promoting an establishment (the interviewees stressed the importance of signboards, distinguishing the entrance, outdoor stands displaying the menu, as well as signposts and banners with directions to the establishment), however ineffective in promoting a new menu. The least effective in the interviewees' opinion were: advertising in press (2.1), radio (1.9) and television (1.7), due to their high costs and low efficiency, considering the geographic range of markets, in which individual establishments operate (Table 5).

Table 5. Efficiency of selected forms of promotion in communicating information about new items on the menu

Forms of promoting	Efficiency ^a
Personal sales	4.2
Website	3.0
Tastings	3.6
Leaflets	3.2
Advertising in press	2.1
Outdoor advertising	2.9
Advertising on the Internet	2.7
Advertising on the radio	1.9
Advertising in television	1.7

^a On a scale from 1 – inefficient form, to 5 – very efficient form.

Source: Study realized as a part of the Biofoods project.

CUSTOMERS' REACTIONS TO A HEALTHY MENU

The interviewees stressed, that the actions they take in order to create a healthier menu are mostly a response to consumers' shifting expectations. However, a vast majority of the interviewees declared, that they would prefer to introduce standard changes to the menu (new ingredients, flavors, seasonal changes to the menu), since that is the area in which they consider themselves experts and find it easier to predict customers' reactions, rather than healthy solutions.

According to the interviewees, customers are mostly interested in the fat contents of consumed products (e.g. they ask for cutlets from lean meat, favor poultry dishes over pork, leave out the fat parts of meat, do not add sour cream to soups, or mayonnaise to eggs, request frying with little fat), they are also wary of the amount of sugar they consume (they do not sweeten their tea or coffee, choose sugar-free soft drinks). Older consumers limit the amount of salt in products, and the younger ones are increasingly reluctant to use sodium glutamate. Younger consumers and women also order salads and organic dishes more often.

CONCLUSIONS

Every year gastronomy is growing more innovative. The examined enterprises take innovative actions in various directions, although there is a strong tendency towards products and dishes based on meats and giblets. Menus are also developed towards ethnic foods, and there is some interest in introducing molecular cuisine.

Healthy solutions are an important direction of product and process innovativeness (introducing dietetic dishes to the menu, using organic stock, limiting the use of fats, substituting animal fats with vegetable oils, limiting the time of heat treatment and curbing the use of salt and sugar). Consumers' interest in healthy solutions is moderate and concerns mostly the amount of fats, sugar, salt and sodium glutamate in the served dishes.

According to the interviewees, neither kitchen staff nor waiters are interested in introducing or promoting innovations, wherein the level of creativity in this area depends on age, education and gender.

The conducted studies reveal a great potential of the gastronomy market in promoting healthy products, however in order to realize it, employees must be educated.

REFERENCES

- Bartkowska, M. (2013). Atelier Amaro. Sukces pod prąd, *Nowości Gastronomiczne*, 4, 20–23.
- Budżety gospodarstw domowych [Household budgets] (2000–2014). Zakład Wydawnictw Statystycznych, Warszawa.
- Cygan, P., Waszkiewicz-Robak, B., Świderski, F. (2003). Żywność funkcjonalna – przyszłość, perspektywy, trendy. *Przemysł Spożywczy* [Functional foods – future, perspectives, trends. Food industry], 3 (57), 12–15, 46.
- Dekker, M., Linnemann, A.R. (1997). Product development in the food industry. [In:] W.Y.G. Jongen, M.T.G. Meulenberg (Eds), *Innovation of food production system: product quality and consumer acceptance*. Wageningen Press NL, 70–71.

- Kiedrowski, M. (2007). Żywność funkcjonalna – charakterystyka, trendy, perspektywy [Functional foods – characteristics, trends, perspectives]. Retrieved from <http://www.poradnikmedyczny.pl/publikacje/7273> (accessed 10.10.2015).
- Krawiec, F. (2000). Zarządzanie projektem innowacyjnym produktu i usługi [Managing innovative projects for products and services]. Difin, Warszawa.
- Levytska, G. (2011). Usługi gastronomiczne – znaczenie i tendencje rozwoju [Food services – importance and development tendencies]. Wyd. SGGW, Warszawa.
- Littler, C.R. (1982). The Development of the Labour Process in Capitalist Societies. Heinemann, London.
- Lemanowicz, M. (2015). Innovation in economic theory and the development of economic thought. *Acta Scientiarum Polonorum, Oeconomia*, 14 (4), 61–70.
- Lewandowska, M.S. (2014). Innovation barriers and international competitiveness of enterprises from polish food processing industry. Research results. *Acta Scientiarum Polonorum, Oeconomia*, 13 (4), 103–113.
- Na dobry początek dnia (2008). *Food Service*, 3, 28–30.
- Oksiński, M. (2013). Restauracje w stabilnej sytuacji [Restaurants in a stable situation]. *Nowości Gastronomiczne, Wydanie specjalne: Rynek Gastronomiczny w Polsce 2012*, 1, 4–6.
- Pomykański, A. (2001). Zarządzanie innowacjami [Managing innovations]. Wyd. Naukowe PWN, Warszawa – Łódź.
- Roczniki statystyczne [Statistical yearbooks] (2000, 2014). Zakład Wydawnictw Statystycznych, Warszawa.
- Rodgers, S. (2007). Innovation in food service technology and its strategic role. *Hospitality Management*, 26, 899–912.
- Siro, I., Kapolna, E., Kapolna, B., Lugasi, A. (2008). Functional food. Product, development, marketing and consumer acceptance – a review. *Appetite*, 51, 456–467.
- Starling, S. (2010). US functional foods market to grow 21 percent by 2015. Retrieved from <http://www.nutraingredients-usa.com/Markets/US-functional-foods-market-to-grow-21-percent-by-2015> (accessed 4.10.2015).
- Stępiak, K. (2015). Mocno w górę. *Nowości Gastronomiczne, Wydanie specjalne: Rynek Gastronomiczny w Polsce 2014*, 1, 20–29.
- Surmacka-Szcześniak, A. (1995). Tekstura [Texture]. [In:] J. Czapski (Ed.), *Opracowanie nowych produktów żywnościowych* [New food products development]. Wyd. Akademii Rolniczej w Poznaniu, Poznań, 195–206.
- Świderski, F. (2003). Towaroznawstwo żywności przetworzonej [Science of commodities for processed foods]. Wyd. SGGW, Warszawa.
- Tuorilla, H. (2001). Keeping up with the change – consumers responses to new and modified foods. *Food Chain, Program Abstracts*, 39.

INNOWACYJNOŚĆ PRODUKTOWA I JEJ WPŁYW NA PROZDROWOTNE ZNACZENIE ŻYWNOŚCI W SEKTORZE USŁUG GASTRONOMICZNYCH

Streszczenie. Celem przeprowadzonego badania było poznanie opinii przedstawicieli branży gastronomicznej na temat innowacyjności produktowej sektora, ze szczególnym uwzględnieniem rozwiązań prozdrowotnych. Badanie jakościowe dotyczące tej problematyki przeprowadzono metodą pogłębionego wywiadu indywidualnego z właścicielami lub managerami placówek gastronomicznych. Stwierdzono, że w gastronomii podejmowane są działania (związane z produktem i technologią wytwarzania) zwiększające pozytywny wpływ oferty na zdrowie klientów, jednak ich skala nie jest duża. Odnotowano, iż zarówno personel kuchenny, jak i obsługa kelnerska są mało zainteresowani wprowadzaniem

i propagowaniem innowacji. Na podstawie przeprowadzonych badań sądzić można, że istnieje duży potencjał rynku gastronomicznego w propagowaniu prozdrowotnych produktów, ale warunkiem jego wykorzystania jest szeroka edukacja branży w tym zakresie.

Słowa kluczowe: rynek gastronomiczny, innowacyjność, żywność funkcjonalna

Accepted for print: 28.03.2016

For citation: Kowalczyk I., Gutkowska K., Sajdakowska M., Żakowska-Biemans S. (2016). Product innovativeness and its impact on health related importance of food in the catering business. *Acta Sci. Pol., Oeconomia*, 15 (2), 75–85.

