

Innovations in e-commerce: value proposition for e-buyers

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Abstract

Development and innovation in the e-commerce sector over the last decade have been extremely dynamic. Market development has increasingly been driven by the changing behaviour of consumers shopping online and the growing number of e-stores. This article identifies the pro-innovation areas and actions which are creating special value propositions for e-buyers in Poland and assesses their impact on shopping decisions for each generation (X, Y, and baby boomers) by assessing the impacts of differences in the preferences of the generations regarding e-commerce. Each generation differs significantly from the others in terms of work, education, security, success in professional and personal life, and in terms of consumption. The characteristics of the individual generations and the levels of their digital competencies impact significantly on the ways in which a given generation makes purchases and what they expect during the purchasing process. In order to establish the key determinants of online purchasing decisions and attitudes towards innovation in e-commerce, an online survey was conducted. The sample included three generations of Polish internet users: 260 people at ages between 25 and 37 (generation Y); 200 people at ages between 38 and 50 (generation X) and 100 people at ages between 51 and 70 (the baby boomers' generation). The structure of the article includes presentations of the problem against the background of relevant literature, the theoretical assumptions of the research, and its findings and conclusions.

The definition and classification of innovations

The source literature recognises various categories of innovations, each characterised by a different set of features, which in turn are dependent on conditions that affect them. The Office of National Statistics classifies innovations as technological (describing products and processes) and non-technological (organisational and managerial).

Technological innovation, according to the Oslo methodology, takes place when a new or improved product is introduced to the market. It also occurs when a new or improved process is applied to production, providing that the processes or products are new at least from the point of view of the business (company) introducing them. This also applies to the tourism business.

On the other hand, non-technological innovations are defined as any innovative activities of a business that do not include and are not related to developing new or significantly modified products, introducing new or substantially modified products to the market, or implementing new or substantially modified processes. Non-technological innovations include the implementation of advanced management techniques, new or significantly changed business strategies, implementation of significantly modified management techniques, and activities related to changes in organisational structures.

The study of non-technological innovations also acknowledges marketing innovations – defined as significant changes in the business's marketing concept or strategy or aesthetic character of the brand and modifications or other creative changes to the business's products not classified as technological

innovations. An innovative business is characterised by a strong ability not only to create and introduce innovations but also to adapt them from exterior sources.

One classic definition of innovation is proposed by J. Schumpeter: the introduction of a new product or new production method, opening a new market, acquiring a new source of materials, or introducing a new type of business organisation (Schumpeter, 1960). According to P.F. Drucker, however, innovation is a specific means by which entrepreneurs convert new developments of any kind into an opportunity to start a new business or provide new services (Drucker, 1992).

There are many other definitions of innovation. For example, according to Kotler innovation refers to a product or idea perceived by someone as new, which means that it may have existed for a long time and is only a new for some individuals (Kotler, 2004).

In a narrower definition, an innovation is the first launch of a new product, process, or system to the market (Jasiński, 2006).

From a technological point of view, innovation is defined as a desire to move away from existing technologies and practices for the adoption of new ones, including in order to adapt to changing external circumstances.

In addition to definitions describing innovations from technical, economic, marketing, or organisational points of view, innovation can be defined in a way which cuts across these aspects of commerce, such as, for example, in a behavioural approach – focusing on changes in the behaviour of individual consumers or businesses, in comparison with other

market participants, that indicate readiness to accept new ideas (Goławska, 2004).

Based on the aforementioned definitions, it is evident that the term ‘innovation’ can be understood or defined in a variety of ways, which derives from differences between various styles of business management.

The features of innovations most commonly found in the source literature, are shown in Figure 1.

As shown in Figure 1, innovation depends not only on technological know-how but also other forms of knowledge such as experience, knowledge of suppliers and customers through interaction or study, and observation of the competition.

Taking the above into consideration, we are led to the conclusion that, when competing for a client, businesses should rely on sustainable values, selecting a sequence of actions that will allow them to create overall, unique value from the customer’s point of view. Therefore, skills that meet the needs of the selected group of clients in a distinctive way by offering a unique set of benefits that help overcome the actions of competitors, become keys to success (Oniszczyk-Jastrzabek et al., 2018).

It should not be forgotten that every innovation – especially product innovation – greatly depends on consumers’ reactions to it and, therefore, the greater the degree of novelty, the greater the degree of risk and uncertainty. Should the customers not accept a product innovation, it will not be economically or commercially successful. That is why it is extremely important to conduct regular market research and take into account the outcomes and conclusions of the research when making decisions related to product development.

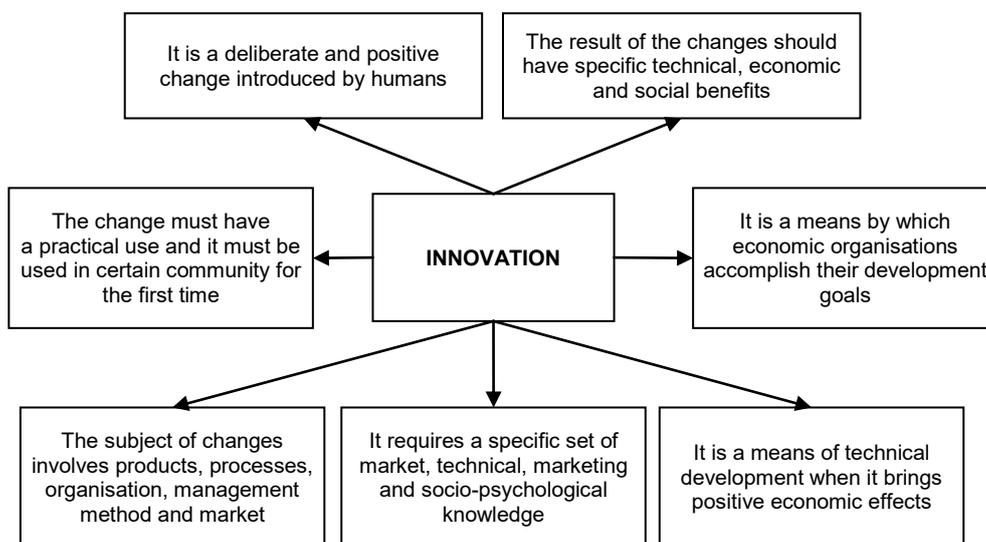


Figure 1. The most common features of innovations

Innovation in e-commerce and the creation of value propositions for buyers

E-commerce is itself an area of innovation; not only is it constantly changing, but it is also the main reason the entire market is changing in this era. The last few years have seen radical growth in e-commerce. Both buying and selling have never been easier. With the growing experience of e-buyers as well as an increase in the number of online shops, however, the expectations, needs, and demands of customers are also growing. This creates a need for continuous development, improvement, and innovations in this area. Such improvements or solutions – whether in product, process, organisation, or marketing – should create specific value propositions for potential buyers.

It should be acknowledged that innovations in e-commerce are understood here as the implementation of solutions specific to and related to the process of running an e-commerce business. This approach is a very broad one; on the one hand it allows the recognition of any given solution as an innovation and, on the other hand, it introduces three precise criteria for innovations: having connections with an e-commerce business, implementation of the innovation in the business, and being a novelty for that particular business (Stanisławski & Szymański, 2015). From the point of view of the e-commercial sector, ‘innovation’ should refer to the practical use of any solution, providing it is new for that particular business. Freedom of interpretation allows it to refer to the product, the business itself, or a variety of actions related to running an e-business.

In scientific publications referring to e-commerce, the term ‘innovation’ is first of all linked to the possibilities generated by new (or relatively new) technologies. Using technologies such as big data, artificial intelligence, and machine learning may determine and define the future of the e-commerce sector since they enable precise determination of business strategies and prediction of customer reactions. Thanks to tools using these technologies, we are already better able to predict purchasing trends, optimise price levels, and personalise customer communications, as well as to afford far-reaching automatization of customer service processes. Online shopping, however, is becoming a much more complex experience for sellers, especially due to ever-increasing competition.

In line with the dominance of competition, product and delivery prices are stressed by many authors as the two main economic factors conducive to

generating online purchases in the early stages of online marketing (Dębicka, Gutowski & Borodo, 2018).

But in the current era, competing only through prices is simply not enough. Customers’ expectations must be attended to and nurtured at every step of the buying process. In a survey carried out by the authors of this article in 2018, on a sample group of 600 participants, only 37 of them recognised the prices of the products as an advantage of online shopping. (Dębicka, Gutowski & Borodo, 2018).

Taking this into account, innovation in the e-commerce industry should be approached as innovation in value, requiring analysis of consumers’ needs, overcoming patterns in design, courage, and consistency in creating new solutions that offer more value to the customers. Such an approach to innovation is consistent with the concept presented by the authors of Blue Ocean Strategy – W. Chan Kin and Renée Mauborgne – who emphasise that innovation means creating new value for customers and one’s own business, thus creating a new market space. (Chan Kin & Mauborgne, 2005).

In this light, the competition becomes less relevant and businesses can exploit their innovations to the fullest extent in order to determine their positions in the market. The essence of this strategy is the innovation of value – the creation of new value propositions for customers and one’s own business (Chan Kin & Mauborgne, 2017).

Such an understanding of the innovative approach to e-commerce implies several strategic areas, defined in this article as pro-innovation areas:

- building of a brand community,
- high-level product presentation,
- personalisation,
- customer retention,
- use of social media as a tool,
- omnichannel (multiplatform),
- advanced search mechanisms.

The term of strategy ‘building a brand community’ should be understood to include all activities related to that goal. In order to develop the best strategy, it is essential to analyse the initial situation, specify the target, set goals, select the right tools, create a schedule of activities taking the budget into account, implement the strategy, ascertain its results, and draw conclusions.

The keys to building a community around a brand could be the following rules: ensure the highest quality of the information offered consumers, give consumers personalised experiences, and communicate with stakeholders who want to have their say about

content – who want to influence promotion and management of the brand in general and want their comments listened to and their opinions taken into consideration.

For an entrepreneur it is vital to know which tools to use. Tools typically used to build a brand community include the following: discussion groups, mail-list discussion groups, discussion forums, IRC channels, chats, portals, vortals, and blogs.

Muniz and O'Guinn define a brand community as a specialised (its centre being a product or a service) and geographically unrelated community based on a structured set of connections between the brand's adherents. Members of such a community express a common interest (fascination) for a given brand, which leads to the creation of a parallel reality (sub-culture) with its own myths, values, rituals, vocabulary, and hierarchy (Muniz & O'Guinn, 2001).

Table 1. Typology of innovations according to Oslo Manual 2005 and pro-innovative areas in e-commerce (OECD iLibrary, 2005)

Innovations	Pro-innovation areas in e-commerce
Product Innovations	Customer retention Personalisation
Marketing Innovations	Activating brand community High level product presentation Personalisation Customer retention Use of social media as a tool Advanced search mechanisms
Process innovations	High-level product presentation Omnichannel (multiplatform) Activating the brand community Personalisation Use of social media as a tool Advanced search mechanisms
Organisational Innovations	Omnichannel (multiplatform) Activating the brand community

Innovative actions taken in each pro-innovation area derive from both new opportunities generated by technological progress and adaptation to changes in consumer behaviour. One of the leading drivers in the field of value innovation is the goal of making customers' lives easier. For example, the Blue Apron store offers prepared sets of products essential for cooking specific dishes. The sets are delivered directly to customers together with a printed recipe and the specified amounts of individual ingredients already measured and ready to use. The store also provides detailed cooking instructions on its website, with instructive photographs. For another example, in the Andi Swim shop, a customer can find a fun 'configurator,' which facilitates choosing

a perfect swimming costume. What deserves special mention, however, is the content and visual design of the configurator.

An important issue is the fact that a pro-innovation strategy for creating new value propositions must be flexible and dynamic because its value disappears as soon as another business adopts the 'new' ideas. Hence it is vital to constantly look for new inspirations, monitor other industries/brands/businesses, and look for the opportunities that grow on the edges of new trends.

Research methodology and population sample

The main objectives of this research were to identify the pro-innovation areas and actions that create special value propositions for e-buyers in Poland and assess their impacts on shopping decisions for representatives of each generation. The study was carried out with the help of CAWI (Computer-Assisted Web Interview) dynamic questionnaire forms. The data was collected throughout July 2018. Interviews with 560 participants were analysed. The sample included three generations of Polish internet users: 260 people aged 25–37 (generation Y); 200 people aged 38–50 (generation X) and 100 people aged 51–70 (the baby boomers' generation). The 25 to 37-year-olds were 50.8% women and 49.2% men. The 38 to 50-year-olds, 46% women and 54% men. And the oldest age group (51–70) was 56% women, 44% men. In order to guarantee high quality data, only fully finished surveys were included in analysis. The aim was to discover answers to various questions related to customers' preferences when shopping online, especially relative to innovation.

Businesses from every sector and industry must constantly take up challenges in diagnosing the needs and preferences of consumers. Such a diagnosis should begin with recognising the goals and motivations that shape consumers' purchasing decisions. Whether the product proves attractive to the recipient or not can be determined by many different factors, the most important being those of an innovative nature.

These innovative factors include that the products on offer provide the customer with real, significant benefits that they will perceive as unique, that the offered products are introduced to the market in the time frame expected by customers, and that all values unique to the customers are accessible, which should be reflected by costs customers can accept and cover in the moment of purchasing a product.

This issue refers mainly to purchases made using the so-called traditional method.

Innovation-related questions related to purchasing includes especially those concerning payment methods and methods of distributing purchased products.

One of the first questions asked concerned how frequently subjects make purchases over the internet. The answers varied by age group. Among participants up to 37 years-old (age group I), exactly half of the respondents admitted to shopping online at least once a month. Among 38–50 year-olds (age group II) this was 33% of participants, and in the age group III (51–70), it was only 14%. The obtained values are consistent with general assumptions about internet use and age.

Respondents also evaluated the level of difficulty they experience when shopping online. Among the participants from age group I, over 98% responded that shopping online does not cause any difficulties. In the second age group, that percentage was slightly above 86%, and among respondents from the third age group there is a further 10% drop. Again, these outcomes, according to the authors of this article, agree with popular assumptions about age and online shopping.

Another aspect of the questionnaire focused on payment options, and those used by the respondents. The variety of responses included payment on delivery (cash on delivery), online transfer, Blink-like online payments, PeoPay, debit/credit card payment, and virtual wallets such as Masterpass, Visa Checkout, Google Wallet, Android Pay, and Apple Pay.

The percentage of innovative payment methods used, out of a group of mobile payments, decreased depending with the increasing age of the respondents. It reached the highest value among the youngest respondents – 30%, dropped down to 11% in age group II, and in age group III, it was only 8%.

As evident from the above results, payment methods such as Blink, PeoPay, etc. are moderately popular and more frequently used than virtual wallets. The latter were used by only a few respondents.

Findings and conclusions concerning innovative solutions

The last section of the questionnaire included a group of questions related to respondents' feelings about the methods of innovative solutions. The innovative solutions concerned issues such as the delivery, ordering, payment, and personalisation of products. Each of the aforementioned influences

consumers' shopping and purchasing patterns in specific ways.

The survey shows clearly that consumers' purchasing decisions are probably not based on the time it takes to deliver goods. Total responses emphasising this factor were below 9%. A much larger percentage was interested in whether the service of bringing the goods into their homes is available.

The responses to the question about this issue are quite interesting. Among the youngest respondents, over 68% were interested in whether the goods would be delivered inside their homes or not, while in the older age groups, only 50%. This may serve as evidence of increasing importance placed on convenience by the youngest age group of consumers.

Respondents in multiple age groups point to the relatively high importance of the personalisation of goods in making their purchasing decisions. This element was most important among the oldest age group. However, those responses totalled only seven (there were only 100 subjects in the group, versus over twice as many in groups I and II). The numbers recognising this factor as important in age groups I and II were 20 and 14, respectively. This seems indirect proof of growing interest – which increases with the age of the respondents – in personalised goods, which may distinguish them from other goods that fulfil the same function.

The originality of visual elements seems increasingly desired by consumers, who presumably want to be unique and stand out from others. In addition to consumers, producers are also responsible for this state of affairs, as they have been offering increasingly newer and more original products. This causes consumers to become more demanding as they set market trends.

Answers to other questions related to innovation concerned specific products. The first question was about the Family Hub fridge, which first appeared on the market in 2016. This unique household appliance makes purchases by itself; the fridge orders missing products and pays for them with the owner's credit card. There is no need, therefore, for traditional transactions when using this product. The question posed to respondents concerned their opinions on such an innovative way of ordering products. The answers to the question of whether such a process is acceptable were as follows: in the age group up to 37 years-old the answer, 'I like this solution the most' was given by eight respondents, in the second group, of 38–50 year-olds there were 12 positive answers, whereas in the group aged 51–70, only three answered positively. We conclude that

the automatically purchasing ‘intelligent fridge’ is not yet a popular solution. Although, this response might also indicate that consumers are not familiar with this appliance, have not come across it, or have merely not had an opportunity to use it yet.

The next question, also related to ordering goods, concerned using voice assistants. Such a solution is popular in the USA in particular, but has not established itself on the Polish market yet. The introduction of the first voice assistant using Polish is planned for later this year. Nevertheless, respondents, when answering the question of whether they would like to order products through a voice assistant, gave 14 positive answers in each of the two younger age groups, while among respondents over 51 years old there were only five positive responses. These results do not reflect the goals set by those who have decided to implement voice assistants for purchasing. Due to its versatility, the voice assistant was intended for many target groups, with a special focus on the elderly. They represent a specific social group, for members of which using a traditional computer might be difficult or even impossible. However, the research does not confirm the assumption that voice assistants would be embraced by the elderly. It can be assumed that information about the possibility of using voice agents to order products has not become widely available or is not popular yet among the elderly.

Another modern solution in ordering products through the use of everyday appliances is the innovation of washing machine models equipped with the Dash Replenishment Service system. This system enables you to order detergent and softener with one push of a button. These washing machine models register the washing cycles and based on this information anticipate when the washing powder and softener will run out. The washing machine then displays this information and sends an alert about the supplies running low, allowing the user to place an order for the missing products automatically. The question in the survey asked participants whether this kind of solution would be acceptable. Ten respondents each from both age groups I and II confirmed that they like this solution. On the other hand, in age group III, only three respondents shared this opinion. These findings prove that this way of ordering products is not yet popular among members of the oldest age group, whereas among younger age groups it is a well-known and accepted solution.

The last question concerning innovation related to new payment methods using fingerprint recognition, head movement activation, facial recognition,

or eye retina recognition. Answers confirming these payment methods as appealing came from members of the youngest and middle age groups (ten positive answers in each group). Among the oldest respondents were only three positive answers. As in the case of previously analysed responses, we might suspect that whereas these methods are known to respondents from age groups I and II and recognised by them, those methods are unknown or not very popular among consumers over 51 years of age.

Respondents’ answers relating to the broadly understood concept of innovation confirm that the newest payment methods and solutions for ordering products are not popular just yet. This applies mainly to respondents age 51 or over. A relatively low number of positive responses among younger participants suggest that these solutions have only recently begun gaining followers. With the rapid development of technologies enabling innovative e-commerce practices, they are likely to become more popular in the near future and widely used by online shoppers.

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