

Potential for the use of cashless payment methods among sports-active Europeans

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Abstract

In society, the importance of lifestyle as a factor that largely determines the behavior of consumers is increasing. Care for health and physical condition plays a significant role and proper nutrition, leisure activities, as well as physical activity, are becoming vital. In recent years, the shift in the lifestyle of consumers affects their daily life, and in consequence, the economy of each country. What seems a reasonable question is what impact can have a lifestyle on the cashless payment methods. The author has for the first time undertaken linking sporting activity of the Internet users in selected European countries with their activity in the use of cashless payment methods. Based on a representative survey of Internet users in Europe, coming from 22 countries, for this article, the author analyzed the data, broken down into sub-groups: people declaring themselves as sports-active, regularly practicing sport, and as "passive" ones. It turns out that people who regularly engage in sports are also characterized by frequent use of the cashless payment, especially those "niche" such as contactless payment using NFC (mobile phone or wearable devices), as well as Apple Pay or Google Pay. It is worth adding that this activity grows among young generations, which, as they get older, they will pay with innovative methods. Based on the literature review, the author has also linked the share of cash payments with the preference for cash and openness to innovation in analyzed countries. Germany is a country where the attachment to cash appears to determine payment behavior.

Key Words: cashless transactions, cash, innovative payment method, NFC payment, sporting & financial activity

Introduction

In modern society, the importance of lifestyle as a factor that largely determines the behavior of consumers is increasing. Care for health and physical condition plays a significant role and proper nutrition, leisure activities, as well as physical activity are becoming vital. The relationship between health and sport seems to be evident and versatile. However, the relationship between physical activity with different areas of life is not necessarily so obvious. Therefore, this topic is the subject of interest of various academic disciplines – economics, management, sociology, psychology, marketing, and finance (Lis & Tomanek 2020). One of the current and interesting questions is how a lifestyle can affect the financial side of the consumer in terms of the use of cashless payment methods and preference for cash in daily transactions. Additionally, despite the expansion of cashless payments, they still represent a minority in the overall structure of the economic turnover of European Union countries. This market is developing much faster than the consumers' approach towards novelties on this market, and in the modern payment world, the boundaries between technological evolution and revolution are blurring. That is why creating new banking products is becoming an extremely challenging task (Thakor 2020). Therefore, it seems crucial to understand the consumer's needs (Stavins 2001), factors that influence their choice of an available payment method, analysis of the consumer's lifestyle, and, finally, estimating their payment preferences on this basis.

According to the author's knowledge, although there has been carried plenty of research worldwide on determinants of the cashless payment methods use, this is the first study in which sporting and financial activity are being analyzed simultaneously. In the research, the author has set the following goal - determining the potential of internet users following a sporting lifestyle to use cashless payment methods.

Data used in this research comes from a representative survey held in July 2020 among Internet users from 22 selected European countries. In the first part of the article, the author reviews the available data on the share of cash payments in the total number of transactions, addresses the development of cashless turnover as well as presents the use of payment cards in European countries. In the following part, based on literature, focuses particularly on the discussion on so-called "payment choice", which are the factors that have an impact on the choice of given payment method that consumer makes. Further, the author presents the methodology of the survey and criteria used while choosing the countries for the in-depth analysis. The closing part of the article is built of analysis and presentation of the empirical results.

Cashless payment methods in Poland and selected European countries.

Is cash still the king?

One could have thought that the cash turnover should look the same in every country because to its use there is no need for additional devices, as is the case with cashless payment. However, practice shows otherwise (ECB, 2016). The differences in the use of cash payments in the general number of transactions, between countries may result from technological advancement, laws, and consumer habits (Harasim & Klimontowicz 2013). One of the factors influencing the differences "in the cash" amount between countries is governments' will to limit the costs for cash handling, including by popularizing cashless payment (Hassan & Schneider 2016). Scandinavian countries, for example, despite the general opinion of them being cashless countries (Arvidsson, 2019) continue to use cash, although, to a small extent. The large distances between towns, in comparison to a small population, were certainly one of the elements which had an impact on the spread of card payments in this region, as the cost of cash handling was very high. Additionally, countries that struggle on a large scale with transactions taking place in the shadow economy with the use of cash, notice the possibility in their reduction also through the development of cashless payments (Schneider, 2014).

Therefore, it can be assumed somewhat for these reasons cash is slowly, but systematically giving place to cashless payments, and cashless payments is starting to become the basis of cash flow in the modern and contemporary economy.

Cash transactions in Europe

Consumers use cash payment in their daily transactions. However, it is hard to determine their exact part in total payments in stores across the whole Europe. A large-scale ECB survey (2016) covering euro area countries has shown that in 2016 79% of every payment in stores was cash payments. Data for 2016 presents significant differences between countries in terms of the share of cash payments: from 92% in Malta to 45% in the Netherlands, 54% in Finland and 48% in Estonia, both in the number and value of transactions. What has to be taken in accountability is the fact that the market is evolving rapidly, with the development of contactless card payments and other innovative payment solutions, results for 2020 will certainly show the scale of these changes.

Cash transactions in Germany, Poland, UK

The use of cash money in Germany decreased in recent years, although more than half of all payment transactions were done with cash in 2018 (approximately 65%). However, if the Polish payment market is to be taken into account, a gradual reduction in the share of cash payments can be noticed (Polasik Research 2019) in the total number of retail transactions (from 64 % w 2016 (NBP 2018) to 57% in 2018 and to 54% in 2019). Therefore, although cash is still the most commonly used payment method by Polish consumers, they increasingly reach for modern methods of carrying out the transactions in physical points of sale (Polasik Research 2019). On the other hand, in the UK it is estimated that in 2018 47% of all payments was carried out with payment cards (the most popular payment method). Despite this cash was still used for 28% of all payments in the UK and was the second most frequently used payment method, behind debit cards. The main cause of the decline in cash payments has been the increasing use of debit cards, and, in particular, the growing popularity of contactless payments.

Cashless transactions in Europe

Cashless payments allows for the effective and economic service of transactions. In addition, due to the introduction of the contactless technology, which allows for carrying on payments by cards with no need for inserting them in the payment terminal, which allowed card payment to be faster and more comfortable (Mantel 2000, Jonker 2005, Klee 2006, Schuh and Stavins 2015), and does not require giving the change, cashless turnout is also significantly aiding cutting down the queues in sale points (Polasik 2013) and stimulating the development of innovations in the economy (Harasim 2013). Not to mention that in recent years, although at a different pace, contactless payments have become widely available in many countries, depending on the spread of payment cards and contactless terminals. Thanks to contactless technology one is able to pay with a card or mobile device (e.g. smartphone) while holding the card or device a few centimeters from the payment terminal with the NFC (near-field communication) function turned on. A study by M. Polasik (2015) has shown that mobile payments using this technology are competitive with contactless cards and cash, while still being a much quicker solution than traditional payment cards with the PIN. H. Issa (2011) notices that this technology, apart from payment cards' functionality, offers many more possibilities, as there is plenty of other solutions based on the mentioned solution. NFC mobile payments user has, above all, quick access to information as purchase history or account balance. According to the author, mobile phones with NFC function can be described as a type of electronic purse, which along with the use of an appropriate application, can be used as, e.g. an access card, parking tickets, club cards, and, of course, a payment solution.

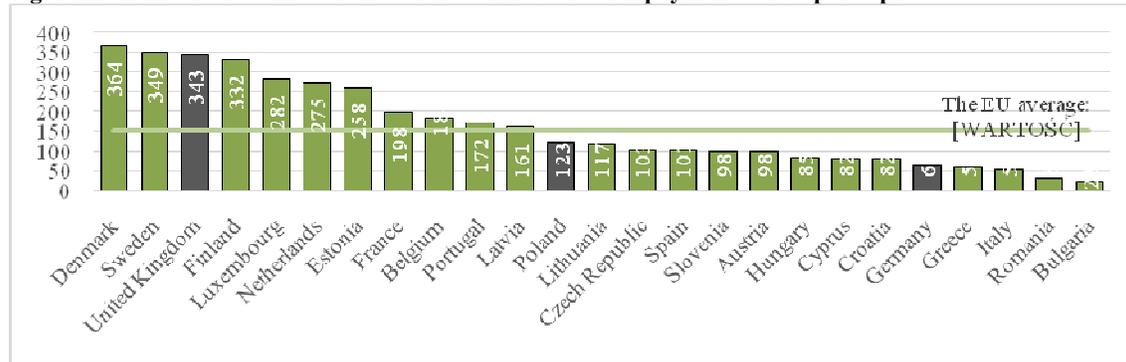
Cashless transactions in the German, Polish and UK market

If one, however, considers the Polish market, then despite the dynamic increase in the use of contactless transactions during card payments in the last decade, cash is still dominant "at the checkout" (Jakubowska 2019). Poland is in the group of those countries where the number of cashless card transactions is rather low (Fig. 1). In 2018, an average Pole has carried out only 123 transactions which makes it 6 times more than an average Bulgarian, but at the same time 3 times less than a Swedish or Danish resident. Although the dynamics of the

increase in the number of transactions in our country is high (the number of card transactions is systematically increasing as well as the growth rate is significantly faster than the average growth rate for the European Union countries. For comparison, the growth rate in Poland in 2017-2018 stood at 22,0%, while the average growth rate for the European Union in the same period was almost 2 times less, i.e. 12,0% (NBP 2018)), the gap between Western European countries and Poland remains large. The reason for such case might be a habit of many people using cash only, which results from historical conditions or no trust in innovation (Tochmański 2013).

The United Kingdom belongs to the group of countries where the number of cashless transactions carried out with cards is one of the highest in Europe – British pays around 3 times more often using card than Pole. Germany, by contrast, is one of the countries that have a rather low number of card transactions per capita, belonging to countries with cash payment predominance in the total number of transactions.

Fig. 1 The number of cashless transactions carried out with payment cards per capita



Source: ECB Statistical Data Warehouse 2019.

Then again, one has to point out that the payments at the physical point of sale are not only the rivalry between cash and card. Increasingly, not only on the Polish market, the importance gain previously mentioned contactless mobile payments, Apple and Google Pay, especially among the more advanced users (Borowski-Beszta & Jakubowska 2018; Borowski-Beszta & Polasik 2020; Polasik & Piotrowski 2016).

Payment choice in literature

A literature review regarding the payment field shows that demographic characteristics such as gender, age, level of education influence the choice of a particular payment instrument at POS (Whitesell, 1989; Boeschoten, 1998; Von Kalckreuth et al, 2009, Stavins, 2011).

Additionally, due to the fact that the payment services market is a two-sided market (McAndrews & Wang 2012; Rysman 2009; Chakravorti & Roson 2006; Rochet & Tirole 2003; Rochet & Tirole 2006b) - covering two groups of entities: payment instruments holders (consumers) and the payment receivers (merchants), the research was carried for many years on both of these sides (Loke 2007; Polasik, Marzec & Fiszeder 2013; McAndrews & Wang 2012; Rysman 2009; Chakravorti & Roson 2006; Rochet & Tirole 2003; Rochet & Tirole 2006b). Significantly, that this market is simultaneously influenced by the so-called network effect (Rochet & Tirole 2006a; Chakravorti & To 2007; Milne 2006; Katz & Shapiro 1985), under which the utility of using one product, for example, payment card, increases along with the spread of the complementary product - acceptance network of this instrument, in this case, the EFT-POS terminal (Rochet & Tirole 2006). However, so far the conditions for the possession and use of electronic payment instruments on the consumers' side have been known better (Humbani & Wiese, 2018). The payment card, as one of the most important cashless instruments, since its introduction time in the 1950s, has significantly reduced the use of cash (Amromin & Chakravorti 2009). That is why another important area of research is the so-called payment choice – consumer's choice on a given payment method as well as the conditions which affect this choice. For example, Zinman (2009) Lee et al. (2007), as well as Sprenger and Stavins (2010), have pointed out a connection between the use of a debit card with the repayment of debt on a credit card, while Ching and Hayashi (2010), Simon et al. (2010), the role of price discounts when using a payment card, that may encourage the consumer to choose a cashless payment method (Borzekowski et al, 2008). Studies by Kennickell and Kwast (1997), Stavins (2001), Hayashi and Klee (2003) emphasize the relationship between demographic and financial characteristics as well as the tendency to adopt new technologies with the choice of a given payment method. Turns out that young, better educated and more wealthy people pay cashless more often. Therefore, the mainstream research in the cashless payment field also concerns consumers' behavior and the exclusions (Ouma, Odongo & Were, 2017; Bayero, 2015). Based on the above review of the literature, the author decided to look into the impact of the financial and sporting activities on the use of cashless payment instruments among the Internet users in Europe.

Methods and empirical data

This article is based on literature and quantitative survey, conducted at the turn of July/August 2020. The survey was conducted by questionnaire interview CAWI (Computer-Assisted Web Interview) on a sample of approximately 5 thousand interviewees from 22 EU countries, carried out by the research agency IRCenter, commissioned by Nicolaus Copernicus University in Toruń, under NCN (National Science Center) grant 2017/26/E/HS4/00858, the author of which is a participant. The participants of the survey were Internet users,

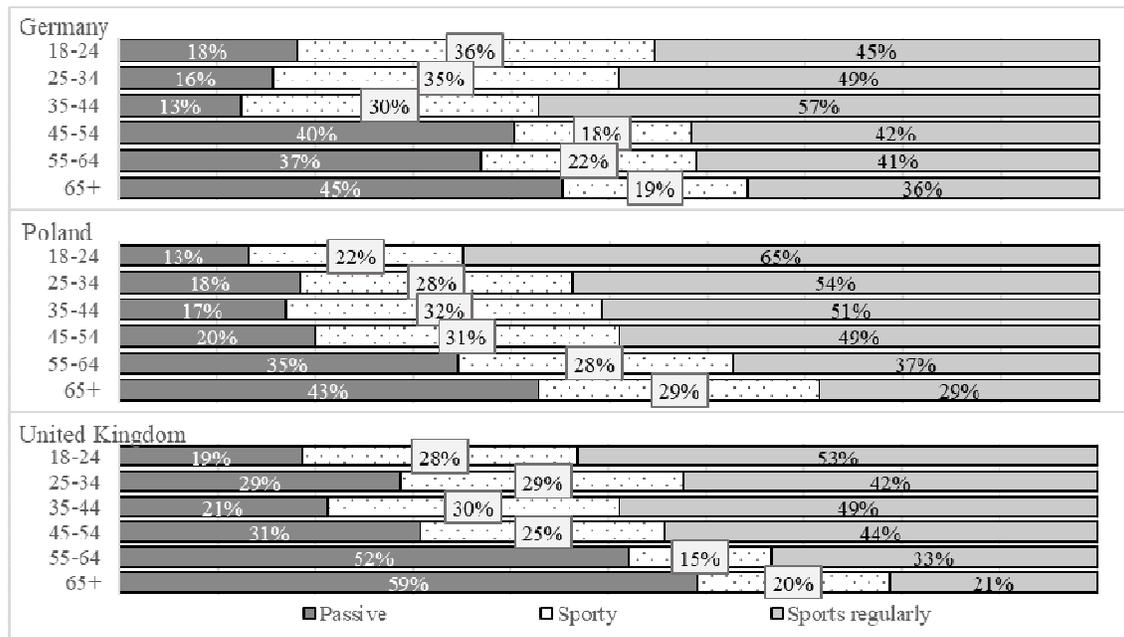
and the random selection of interviewees assured its representativeness in terms of gender, age, and size of the place of residence. The data analyses presented in the article were carried out by the author in PS IMAGO IBM SPSS software. A literature review and the accompanying assumption allowed to formulate the following hypothesis: *Consumers with an active lifestyle are more likely to use cashless payment methods.*

One of the main purposes of the research was to determine how sports activity favors the use of cashless payment methods in selected countries. The indicator presented in the first chart was adopted as the selection criteria – the number of cashless transactions carried out with cards, per capita. The author has analyzed three countries: Germany, Great Britain, and Poland. By this, the author has represented respectively: a country with a small number of card transactions per capita (below the European average), a country with a high number of such transactions (above the average), and a country with the number of cashless payment carried out with cards similar to the European average.

Results

In this part, the author presents the results of the conducted research. One has to pay attention to the fact that this analysis has been carried out by dividing the interviewees into groups, depending on the declared level of activity: passive, sporty, and sports regularly person.

Fig. 2 Characteristics of physical activity according to the age in selected countries



Source: online survey, sample N=1701, carried out by IRCenter agency under Grant No. 2017/26/E/H54/00858 <https://paytech.umk.pl>

The percentage of people in each surveyed group (Fig. 2), depending on the level of physical activity, in the case of Germany, it increases along with age, but only to the age of 44 (the highest percentage in the group 35-44). In Poland, the most active group are people aged 18-24, while people from subsequent age groups exercise less often. In the case of British, we can notice a sharp distribution of activity – the most active people are aged 18-24 and 35-44, slightly less active are people aged 25-34 and 45-54. In every country, there is a noticeable decline in sports practice among elder people. The survey asked interviewees to indicate the financial products they use. The results of the indications for the general physical activity of the Internet users in Europe, as well as for those who define themselves as a passive person, are presented below. The results (Fig. 3) indicate that physically active people use cashless payment methods and banking products more willingly than people not practicing any sport. Every of the surveyed group, in every country, besides owning a current account (approximately 93-98%) with access via the Internet, also declares payments with debit card. In these indications it is hard to find any significant differences, which confirms the fact, that owning a bank account, using it via the Internet, and paying with a debit cards is well-established in the Internet users’ awareness which poses for a kind of applicable standard. On the other hand, in the remaining cases, a significant difference is noticeable between people practicing sports and passive ones, especially in the use of more innovative payment methods. An “active” interviewee declares the use of contactless payment (NFC) and Apple Pay almost 3 times more often, and almost twice more with Google Pay, as often as the use of wearable devices for payments.

Fig. 3 Use of banking and non-banking financial products by consumers that are active, regularly active or passive in terms of sporting activity

Source: online survey, sample N=1701, carried out by IRCenter agency under Grant No.2017/26/E/HS4/00858 <https://paytech.umk.pl>

What seems to be significant is the difference in the indication of products between countries. Cashless payment methods occur more often in Poland and Great Britain than in Germany – e.g. the use of banking application declares a significantly smaller percentage of Germans (in each surveyed group) than Poles or residents of the UK. Revolut, Apple Pay, and Google Pay are similar, as well as contactless payments with a card. An interesting aspect of the research is the estimation of consumer openness to innovation (Fig. 4) and the preference of cash payments (Fig. 5). Turns out that keeping up with technological novelties is very important for regularly sports-active people, regardless of the country. However, the differences between surveyed groups within the country - level of activity and the declaration of openness to innovation - are the smallest in Poland and the largest in the UK.

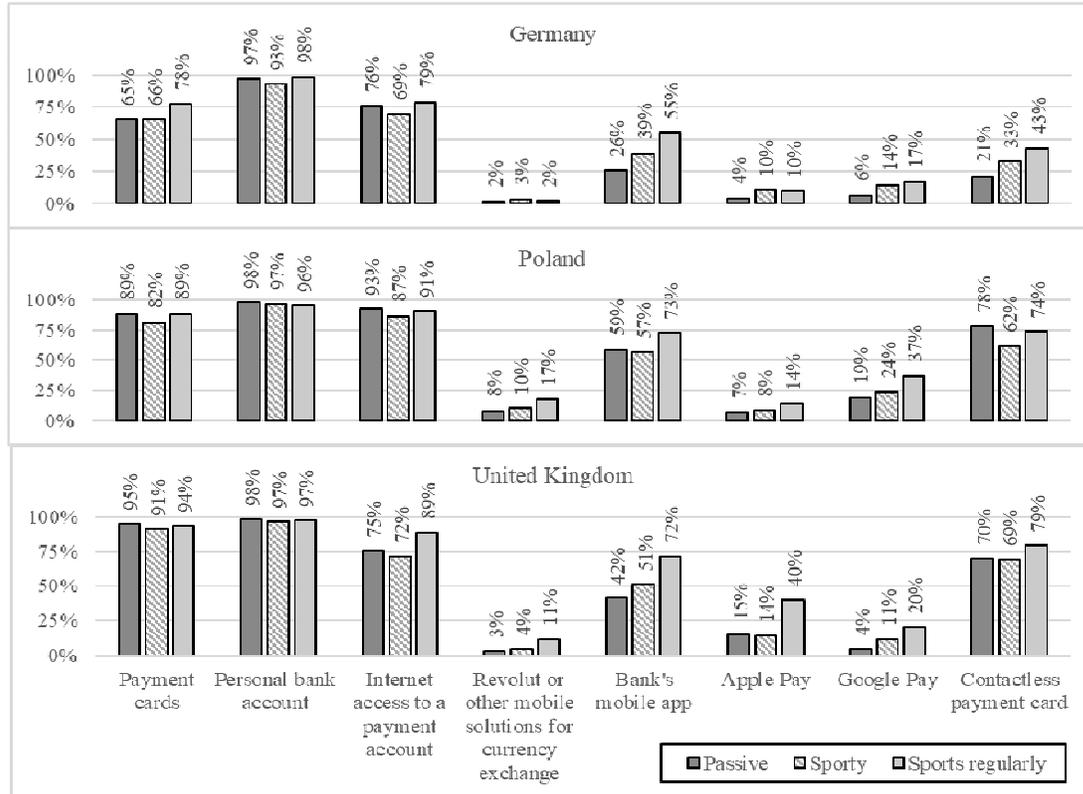
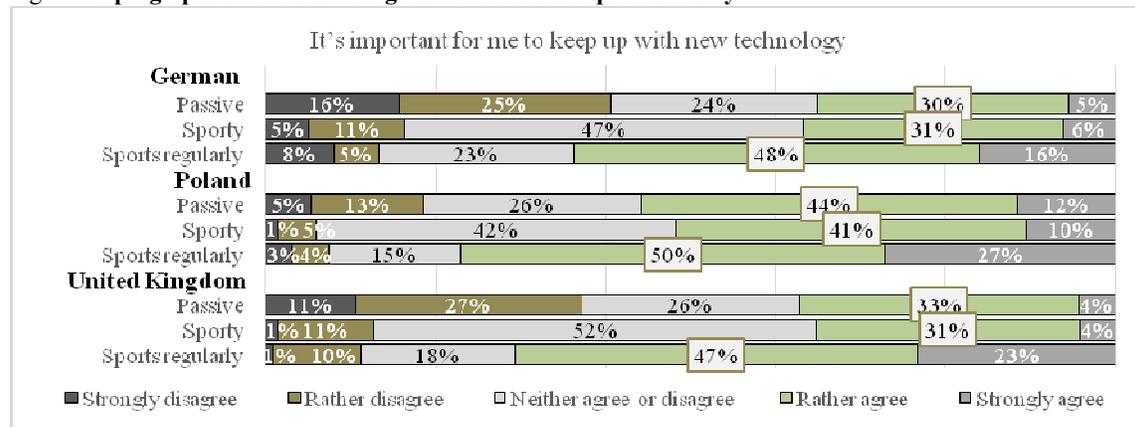


Fig. 4 Keeping up with the technological novelties and sports activity

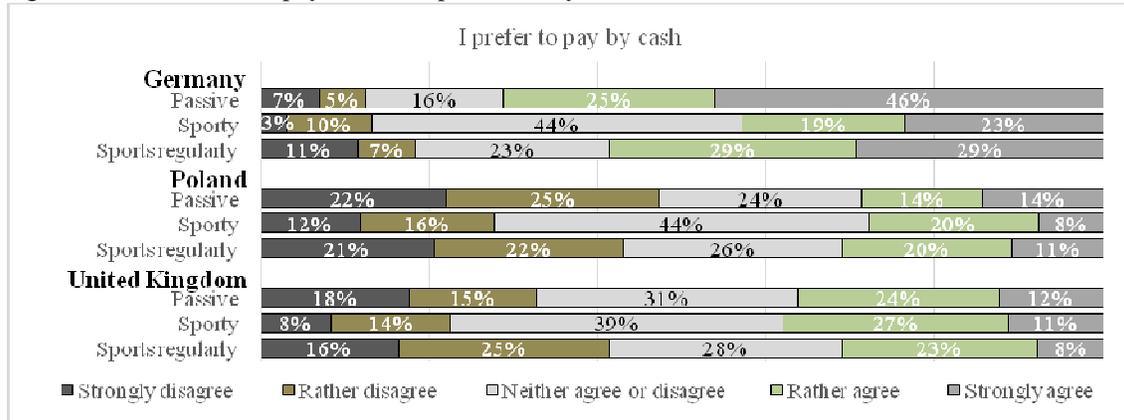


Source: online survey, sample N=1701, carried out by IRCenter agency under Grant No.2017/26/E/HS4/00858 <https://paytech.umk.pl>

71% of the passive German residents declare that they prefer to pay in cash. In Poland, only 28% of indications have been recorded in this group, and 36% for the UK. In terms of the preference for cash, there are differences

in the indications, between countries, while broken into sports activities, it is hard to observe such clear tendency as in openness to innovation.

Fig. 5 Preference for cash payment and sports activity



Source: online survey, sample N=1701, carried out by IRCenter agency under Grant No.2017/26/E/HS4/00858 <https://paytech.umk.pl>.

Discussion

The results indicate that the physical activity of Internet users may have a significant impact on their activity in the world of payment services. Even though for sports-active people, technological "novelties" in the field of payments are not the first choice, the situation is changing dynamically and they are more likely to reach for niche payment methods, such as NFC contactless payment or using a mobile. It can be assumed that people practicing sports are more open to innovation, and also financially active - in matters of payment methods. The reason for this payment openness may be the awareness of the Internet users on the benefits of using cashless payments, which allow for carrying out the transactions without the need to take the wallet from home, e.g. during morning jogging.

It is worth highlighting that sports-active people are mostly young. Therefore, the result of research indicating that (active) lifestyle favors the use of cashless payments is extremely important from the point of view of the development of the cashless payment methods in the future, especially innovative ones. Along with generational change, the changes in payment behavior can also be expected.

In the case of the use of primary payment instruments (such as a debit card), sports activity do not seem to carry any meaning. Significant differences appear while using mobile products, e.g. owning a banking application, using NFC contactless payment, as well as Google or Apple pay. The analysis of the relationship by the country has indicated that the high share of cash payments in the total number of transactions in Germany has also reflected in a preference for cash by people not practicing any sport (71% of indications), although it does not influence the openness to innovation among these people. It seems that overall interest in cashless payment instruments is much lower in Germany than in Poland or the UK as confirmed by the results of previous EBC studies.

Conclusions

The results of the survey have indicated that the sporting activity of the Internet users may also have a significant impact on the choice of the cashless payment methods by these people. It can be assumed that the attributes of cashless payments, such as convenience and speed, and the lack of the need to carry a wallet with you to make payments, creates a real chance in increasing the interest in cashless payments in the future, particularly among young people.

Indeed, the further development of cashless payments, including mobile payments with the use of NFC technology among physically active people, will probably depend on (a) overcoming potential barriers related to attachment to cash in a given country (especially Germany), and (b) the need to find a compromise between the possibility of using a given payment method (the EFT-POS terminal), and the openness to innovation, or the emergence of competition from new providers permitted to the mobile payment market as a result of the implementation of the EU PSD2 directive.

An initial analysis of the research results seems to identify well the relationship between an active lifestyle - practicing sporting activities and using cashless payment methods. However, in order to follow more broad reasoning - examining the impact of individual factors (the causality of action), in-depth research is needed, with the use of, e.g. econometric models. This will be a field for further in-depth studies in the future, where the differences in technological development, such as access to the infrastructure for cashless payments, will be important. An important aspect of the future proposal will be the parallel analyses of the payment markets in individual countries with regard to the implementation of the PSD2 directive too.

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