Payment Habits as a Determinant of Retail Payment Innovations Diffusion: the Case of Poland

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Abstract. New and innovative methods for electronic funds transfer are emerging globally. These new payment tools include extensions of the established payment systems as well as new payment methods that are substantially different from traditional transactions. They have made the retail payments faster, cheaper, easier and more convenient for customers. Simultaneously, these payment innovations influence retail payment market around the world. During the last few decades it has changed remarkably and has become a very competitive one. Financial institutions are increasingly in competition with technology companies and other organizations to be the preferred providers of consumer payment services. There are huge differences between retail payment markets in developing countries and those in the mature markets. Payment habits are mostly influenced by local cultural drivers, so global trends are few and far between. Nevertheless, as consumer expectations and habits are becoming more homogenized and financial institutions start to be interested in new markets, the opportunities to learn from the experiences of other economies appear. The paper discusses theoretical and empirical foundation of retail payment innovations diffusion, presents the retail payment taxonomy and the results of a survey held in Poland in 2013. It is concluded that Polish experience can be assessed as a benchmark for searching determinants of retail payment markets development. However, copying success factors for sustainable market development is rather impossible with regard to payment culture, experiences and habits.

Keywords. retail payments, payment innovation, consumers' adoption, consumers' payment habits, innovations diffusion

1   Introduction

Despite the large number of papers focusing on innovations and the factors of their diffusion (Manning, 1995; Ram and Sheth, 1989; Sathye, 1999; Citrin et al., 2000; Kolodinsky et al., 2004; Juwaheer et al., 2012) there is still the lack of their taxonomy and categorization concerning retail payment market and innovative payment instruments. This paper fulfills that gap and contributes to the results of other research analyzing payments habits in Poland concerning traditional payment instruments.

The main research questions relate to:

- the categorization of retail payment innovations,
- the knowledge about innovative payment instruments/methods and their usage,
- the role of payments habits in the process of innovative payment

instruments/methods adoption,
- barriers to- and drivers for payment innovations.

The paper was prepared combining descriptive theoretical and empirical methods. A two-step methodology was designed for the research. The first step involved an investigation of the current professional literature, including books and journals, reports, conference proceedings, dissertations and theses, social media and portals. This analysis was the foundation for preparing the questionnaire for the second step – an empirical survey which was conducted in the first half of 2013.

This field of research is especially important because payments have recently been experiencing the fastest pace of development since the introduction of electronic services. Technological advances have paved the migration from paper to electronic payments. In the European context, this development has been complemented by the establishment of the Single Euro Payments Area (SEPA), which aims at creating an integrated and harmonized pan-European payments market thereby fostering competition and driving innovation. The most spectacular innovations appearing on retail payment market, like mobile or online payments, are strictly connected with new market players such as Amazon, Google, PayPal and other online giants, telecom operators, merchants and service providers. However their popularization on the market needs users' acceptance. In two-sided markets, i.e. retail payment market, the major challenge lies in achieving a critical mass of two groups of end-users (consumers and merchants). Furthermore, these both sides of the market must adopt the innovation at the same time. It is easier to convince merchants e.g. by creating incentives to join the network or by cutting the cost of doing so. But consumers might not be interested in a new payments instrument if they are satisfied with the instrument and methods which have been used so far. It is very important and relevant to verify this assumption. We did it on the example of Poland, where consumers still prefer cash or traditional payment instruments such as credit transfer or debit cards.

This paper examines the fundamental relationship between consumers' habits and the diffusion of retail payments innovations. Using data from desk and field research the results confirm that payment habits are probably the most important drivers for the adoption of payment innovations. Consumer propensity to use innovative payment instruments/methods is considered as one of the barriers to - or the driver for - retail payment innovation diffusion. Among the other drivers are the following: dynamic technical development, rapid growth of electronic commerce and increasing customers' expectations concerning convenience and price.

2   Retail payment innovations diffusion and development

2.1   The innovations in retail payments

Payment services are one of the most important financial services for economy, companies and consumers. Their dynamic growth created the need of unifying their definition and the European countries' attitude to payment market. The Payment Service Directive (PSD) was the response to that need. According to the directive (Directive 2007/64/EC), a payment service is defined as any business activity which concerns: services enabling cash to be placed on a payment account as well as all the operations required for operating a payment account, services enabling cash withdrawals from a payment account and the operations required for operating a payment account, execution of payment transactions, including direct debits, payment transactions through a payment card or a similar device and credit transfers, including standing orders, execution of payment transactions where the funds are covered by a credit line for a payment service use. The definition of a payment service also

includes issuing and/or acquiring of payment instruments, money remittances and execution of payment transactions, where the consent of the payer to execute a payment transaction is given by means of any telecommunication, digital or IT device and the payment is made to a telecommunication and IT system or a network operator, acting only as an intermediary between the payment service user and the supplier of goods and services.

Payment services are realized by payment instruments. The payment instrument means any personalized device(s) and/or set of procedures agreed between the payment service user and the payment service provider and used by the payment service user in order to initiate a payment order. According to that definition, payment instruments are as follows: credit transfers, e-transfers, direct debits, debit cards, contactless cards, credit cards, cash payments, mobile and online payments.

Not all of them could be classified as innovations. Generally, innovation is defined as the implementation of new ideas, processes, products or services (Thompson, 1965) or anything perceived to be new by the people doing it (Rogers and Kim, 1985). More precisely, innovation could be defined as a process of implementing new products/services or adopting new ways of their usage (Janasz and Kozioł, 2007). So innovation is the first commercialization of the idea for a new product or process. Financial innovation (Frame and White, 2002) represents something new that reduces costs, risks or provides an improved product/service/instrument that better satisfies participants' demands. Taking that into account payments made by debit or credit cards, as well as cash payments, credit transfers and direct debits could not be considered as innovative ones.

Payment innovations, as other innovations, can be categorized in several ways. One of the most common and useful typologies defines four types of innovations that encompass a wide range of changes in firms' activities. It divides innovations into: product innovations, process innovations, organizational innovations and marketing innovations (Oslo Manual, 2005). Product and process innovations are the most common on a retail payment market. The first type of innovation should include contactless cards, mobile and online payments and the second ones are for instance improvements in payment initiation, processing or receipt of payment.

Considering the degree of novelty there are two kinds of innovations: incremental and radical (Schumpeter, 1942). Many authors suggest that differential incentives will lead incumbents (i.e. banks in the retail payments market) drive forward with incremental innovations, whereas entrepreneurial new entrants will pioneer radical innovations (Hill and Rothaermel, 2003; Furst and Nolle, 2004; Sullivan and Wang, 2007). The greater part of payment innovations is incremental and is related to the use and the founding of card payments. These innovations have focused on the way of payments and improvement of their safety. The radical innovation in this area are contactless cards, mobile and online payments. Table 1 presents the innovation range and usage possibility of selected payment instruments. Another factor that differs payment instruments, despite the range and usage possibility, is the ability to use them as a micropayment instrument. In the future cash domination in this area will be probably decreased by the electronic purse, contactless cards and mobile payments.

Table 1 Innovation range and usage possibility of selected payment instruments

Payment instruments	Usage possibility		Innovation range		
	Traditional point of sales	Internet	Not innovative	Innovative	
				Incremental	Radical
Cash	X	X	X		
e-transfer		X		X	
Direct debit		X	X		
Debit cards	X	X	X		
EMV debit cards	X	X		X	
Contactless cards	X			X	
Cheques	X		X		
Electronic purses	X				X
Mobile payments	X	X			X
On-line payments		X			X

Precise classification of all payment innovations is quite difficult because of their large variety and number. Two large surveys were conducted to identify retail payment innovations. 101 central banks took part in an audit of payment instruments and methods which was carried out by the World Bank in 2010 (Payment Systems Worldwide, 2010). The purpose was to collect information on innovative payment instruments and products such as electronic money, mobile and Internet payments as well as prepaid card services and process-related innovations. In order to capture all different types of innovations, for the purposes of the survey, innovative products were defined as products that are not based on cheques, traditional credit and debit cards or traditional direct credit and debit services. Therefore, prepaid cards, card-based e-money products and other types of e-money products including those developed around mobile phones and mobile technology, among others, were all intended to be captured under the previous definition. 173 innovations were identified as a result. Most of them were used in person-to-business (P2B) or person-to-person (P2P) payments. New payment instruments and methods are usually implemented by non-banks and they appear to have fairy well-developed pricing models. Their main disadvantages are: very limited interoperability, a lack of direct connection with the traditional interbank clearing and settlement infrastructure and relatively low safety level.

A similar payment innovation review was made by Committee on Payment and Settlement Systems (CPSS). In June 2010 a working group was set up to investigate developments in retail payments, focusing especially on innovations. (*Innovation in Retail Payments*, 2012). According to their findings, generally there are two kinds of payment innovations: product innovations and process innovations. The first categorization is based on the user's point of view. From this point it, five product-related innovations should be identified: innovations in the use of card payments, online (Internet) payments, mobile payments, electronic bill presentment and payment (EBBP) and improvements in infrastructure and security (see table 2).

Process-oriented categorization focuses on the back office of the payment process and entails payments initiation, overall payment process (including clearing and settlement) and receipt of a payment.

It is worth emphasizing that this classification does not include contactless payments. Taking into account the device they should be classified as the first category of innovations (contactless cards) as well as the third category (mobile devices enabling contactless payments). In many studies on innovative retail payments they are classified as mobile payment (*White Paper Mobile Payment*, 2010) or treated as a specific payment category (*Advanced Payment Report*, 2011).

Table 2 The classification of retail payment product innovations

Innovation	Characteristics
Innovations in the use of card payment (about 25%)*	This product category relates to cards as access devices for payments. They refers to following access channels: - payments on the Internet – innovations in card-not-present transactions for online shopping (e.g. virtual card numbers), - payments at the POS, e.g. contactless card payments using NFC technology, devices connected to mobile equipment that allow payments to be accepted
Internet payments (about 20%)	This product group refers mainly to the access channel. In this case, payments are initiated by devices connected to the internet (e.g. desktop PCs, laptops, tablets and mobile phones) where payment instructions are transmitted and confirmed between consumers and merchants and their respective PSP's in the course of an online purchase of goods or services (e.g. related to an e-commerce transactions. There are three main group of innovations in this category: - on-line payments – a banking-based solutions that forward consumers from e-merchant's website to their online banking applications, - escrow services where a third party is interposed between the payer (buyer) and the payee (seller) in a e-commerce transaction and ensures the delivery versus payment of the foods or services - electronic money payment via the internet.
Mobile payments (about 25%)	In this category the mobile payments are not defined as a device but an access channel what means payments initiated and transmitted by access devices that are connected to the mobile communication network using voice technology, text messaging (via either SMS or USSD** technology) or NFC. Among these devices are mobile phones and tablet computers. Mobile payments include: - mobile payments using traditional bank account, - mobile payments using the mobile phone bill collection process; payers pat the invoiced mobile payment account as a part of their mobile phone bill; the payee receives the amount from the mobile phone operator, - mobile payments using prepaid accounts (sometimes called "mobile money").
Electronic bill presentment and payment (about 10%)	These category include following processes: - the payee initiates the payment using the electronically presented bill, - the payer initiates the payment using the electronically presented bill. Furthermore the payer can store the bill and the related payment documentation electronically.

Innovations connected with improvements in infrastructure and security (EBPP) (about 25%)	Improvements in this field aim at improving payment processing efficiency and/or improving security. The category includes: - cheque truncation or cheque imaging systems, - shortening the time for clearing and settlement, - providing payment services to the unbanked or underbanked, - security improvements.

* Approximate share in a number of all reported innovations
** USSD - Unstructured Supplementary Service Data is a Communications protocol used by Global System for Mobile (GSM) mobile phones operators.

As evident in literature and other surveys' findings regarding the analysis, the following payment instruments/methods were considered during the field research: debit transfer, e-transfer, direct debit, debit card without the possibility of making contactless payment, debit card with the possibility of making contactless payment, contactless card, contactless payment made by mobile phone, mobile payment and on-line payment.

2.2   Factors influencing diffusion and development of payment innovations

The retail payment market is an example of two-sided markets which involve two groups of agents (end-users) who interact via "platforms," where one group's benefit from joining a platform depends on the size of the other group that joins the platform (Rochet and Tirole 2003; Evans, 2003). There are markets with network externalities in which surplus is created - or destroyed in the case of negative externalities - when the groups interact (Katz and Shapiro, 1994; Farrell and Saloner, 1986; Liebowitz and Margolis, 2004; Armstrong, 2006). On the payment market it means that the more widely a payment instrument is accepted, the more benefits it brings to a consumer using it (demand side externality). From the acquirers' perspective network effects are just economies of scale which foster the industry's willingness for cooperation - supply side externality (Kemppainen, 2003; Farrel and Klemperer, 2007). As a result of two-sides markets' specific character, the crucial factors influencing the popularization of payment innovations are: consumers' ability to use them and sufficiently developed acceptors network.

Retail payment innovations development depends on exogenous and endogenous factors which could be both drivers or barriers (see figure 1).
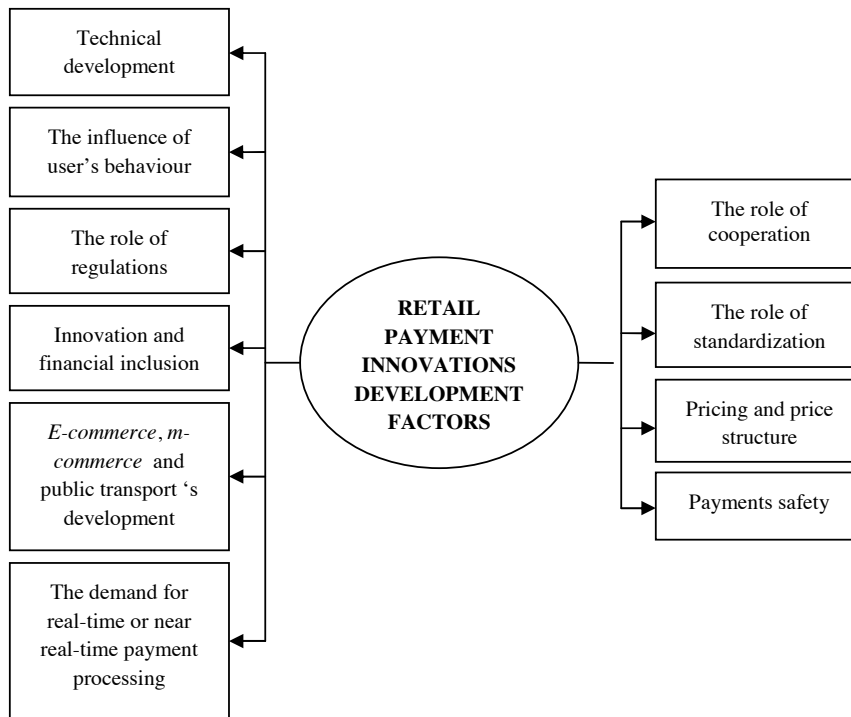
Fig. 1 The factors influencing retail payment innovations development (Harasim, 2013)

Exogenous factors relate to those that are determined outside the payments ecosystem, notably technical developments, user behaviour and regulations. On the other side, endogenous factors are determined inside the payments ecosystem, e.g. cooperation, standardisation, price structure and security (*Innovations...*, 2012). Technology is one of the fundamental catalysts for new and improved payment services and, consequently, the new business models that allow an innovation to be brought to the market. The rapid growth of e-commerce and online transactions together with higher penetration of mobile phones and smartphones will surely influence the retail payment markets in the nearest future. The second crucial, exogenous factor is user's behavior. It is probably the most important driver for innovations. Innovations in the area of retail payment are strongly driven by end users' need for payment instruments that are more secure, efficient and convenient. Merchants and consumers generally prefer to accept or choose payment instruments that deliver them more benefits, and they are unlikely to change such preferences in the absence of some significant expected advantages. The last exogenous retail payment innovations factor is regulation. Regulation may affect the potential demand for payment innovations or their expected production cost. It might be considered either as a driver for- or a barrier to innovation development. There are two prominent rationales for regulating the payment markets. The first is that regulators wish to ensure that the market is secure, since payment services need to be trustworthy in order to be accepted. The second is to increase market efficiency. Recently, there is a tendency to place a stronger emphasis on this second aspect of regulation. In Poland this has entailed improving competition by opening up the payment market to non-banks - in the European Union, according to the Payment Service Directive (2007/64/EC), a new type of non-bank institution, such as payment institutions and

electronic money institutions, can provide payment services. They are subject to less restrictive licences and need to meet lower regulatory burden than the institutions with full banking licence.

The endogenous retail payment innovations' factors are cooperation, standardisation, price structure and payment security.

The role of cooperation is crucial because of substantial fixed investments costs which are required for payment innovations, although there is no guarantee that the new product or process will attract sufficient demand. Cooperation could help to overcome this obstacle by helping reduce costs (e.g. through shared investment or economies of scale and scope) or by ensuring sufficient demand (e.g. by increasing the pool of potential customers or through integration of additional services). Moreover, innovation in retail payments often involves many participants. Thus, cooperative agreements may be the only way to make progress.

In the retail payments industry, where activity is based on networks of numerous players, standardisation plays a crucial role in developing the agreements needed for technically efficient communication. It is considered to be an essential driver to innovation, as it increases the business case by exploiting economies of scale and scope. Standardisation can be achieved by creating open or proprietary standards. Open standards are freely available and are developed and maintained via a collaborative and consensus-driven process. They facilitate interoperability and data exchange among different products or services and are intended for widespread adoption. In contrast, proprietary standards are privately owned and are generally not approved by an independent standardisation body. They are adopted by the industry typically because of the owner's market power. Standard-setting bodies can take a long time to establish a standard, and often develop standards on the heels of a leader that has successfully imposed a proprietary platform. Standardisation affects innovation in a number of ways (CPSS Innovations in retail payment, 2012):

- it facilitates the achievement of critical mass - in contrast, insufficient standardisation can lead to a proliferation of incompatible payment instruments or systems, each of them remains too small to grow into a widely used solution.

- it can create stable ground for new players to come into the market, allowing them to keep upfront investment low. In this way, standardisation encourages competition on the basis of common, rather than competing standards. By contrast, a lack of common standards could reinforce the dominance of an existing platform.

- a lack of common standards could impede innovation because of the uncertainty and risks attached to an early market entry or to the costs involved in overcoming the lack of standards. Moreover, the additional revenue gained by standardizing processes lets successful players funnel more resources into developing new products.

- players operating in many countries are likely to benefit from broader and more open standardisation.

Pricing strategy may play a role in the success of an innovation, since prices set by the payment services providers (PSPs) must be both competitive and raise sufficient revenue in order to support the business case. Therefore, prices may play a twofold role in innovation: if PSPs can set the right incentives, they are a driver for innovation. In the opposite case, however, prices can turn out to be a barrier. Difficulties in price-setting can arise from a number of factors affecting a PSP's choice of pricing strategies, including the cost structure and market power of the players involved, the type and magnitude of the eventual network effect, and the regulatory environment.

Insufficient security and safety, whether real or perceived, could erode public confidence in a new payment solution and hence its business case. Technical advances and faster processing generate new opportunities in retail payments, but they also increase the likelihood of security breaches. It is important for both PSPs and users to take responsibility for security. PSPs should, in their own interest, play a more proactive role in promoting a secure environment for the user, offering technical support, advising and providing assistance where security incidents occur. On the other hand, users are responsible for their own security and should have adequate skills to manage it. Raising public awareness is also important, as it could lead to the implementation of better safeguards and ultimately encourage the adoption of retail payment innovations.

Banks are aware of the payment innovations implementation's necessity. According to World Payment Report (2012) from the banks' perspective the main drivers are: customers' retention and acquisition, efficiency improvement, cost savings, creating new markets (new payment method/customer segment), meeting challenges from competitors and brand positioning. The report also pointed out some barriers. The most important of them are: an attitude to change (from traditional approaches), building business case and security concerns for a new technology (see figure 2 and 3).

Over the longer-term banks are expected to focus more on customer-driven innovation. For banks, the move toward disruptive innovation is necessarily gradual, given the constraints of their traditional businesses, so partnerships with non-banks might feature in their strategies going forward. In fact, banks and non-banks are already forming "co-opetition" payments innovation relationships—cooperating in some cases and competing in others. Banks need to innovate more around consumers' needs to drive loyalty and retention. Customers will continue to be the catalyst for innovation among both non-banks and banks. The customer imperative will reflect both increased urgency around existing needs and new demands. For example, among the existing customer needs that are becoming more pressing, such as real-time payments, easiness and predictability, invoicing and open account payments and e-payments.
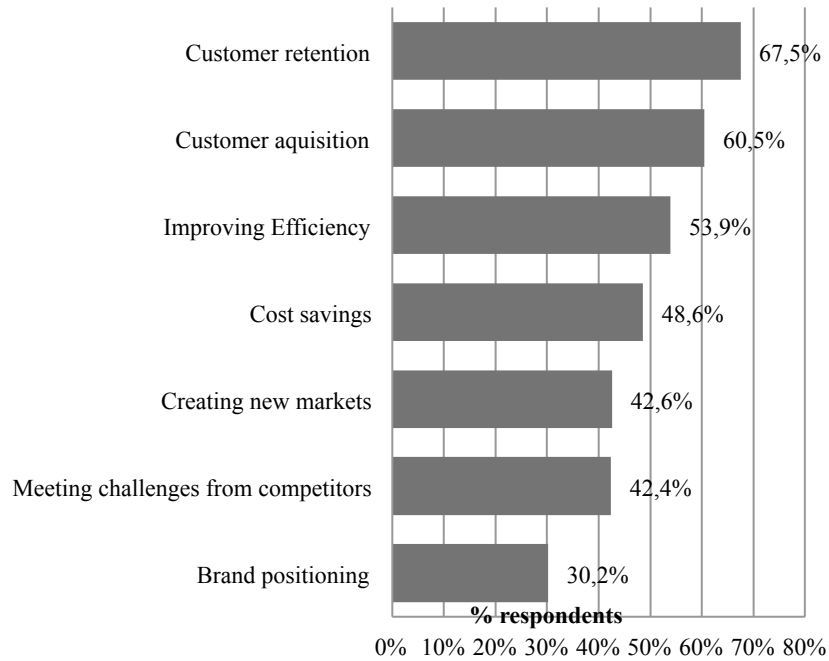
Customer retention — 67,5%
Customer aquisition — 60,5%
Improving Efficiency — 53,9%
Cost savings — 48,6%
Creating new markets — 42,6%
Meeting challenges from competitors — 42,4%
Brand positioning — 30,2%

% respondents

0% 10% 20% 30% 40% 50% 60% 70% 80%

Fig. 2. Key retail payment innovations drivers (% of responders)

Attitude to change — 67,3%
Building business case — 56,5%
Security concerns for new technology — 55,2%
Restrictions on market access — 51,3%
Constrained by regulations — 50,1%
Restrictions on market entry across borders — 49,6%
Constrained by legacy systems — 40,2%
Interoperability across service providers — 31,7%
Less incentive for collaboration and R&D — 31,6%
Need for standarization — 27,4%

% respondents
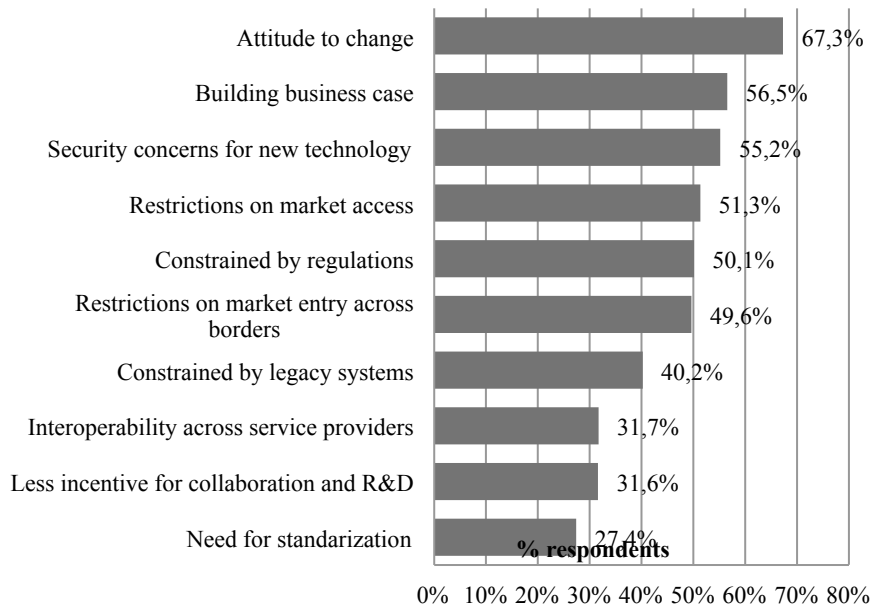
0% 10% 20% 30% 40% 50% 60% 70% 80%

Fig. 3. Key retail payment innovations barriers (% of responders)

Among emerging customer needs (World Payment Report, 2012):

- more personalized services - PSPs once tended to favor 'one-size-fits-all' services, but homogenous offerings cannot cater adequately to the increasingly diverse needs of both corporate and retail customers, which are demanding customized services and products that fit their specific financial needs and schedules. Banks have an opportunity to analyze customer activities and payments patterns to deliver a more personalized customer relationship experience and proposition.
- corporate support for new payment instruments - since retail customers are gravitating toward payments via the Internet, smartphones, social media platforms, and virtual currencies, corporates (especially merchants) need to position themselves to accept a wide and diverse range of payment instruments.
- payments on mobile and social platforms - as the number of mobile and smartphone users rises rapidly, customers (mainly in the retail segment) are looking for payment options that use these technologies. Younger demographics expect in particular payment options to be integrated with social media to facilitate purchases of digital goods such as online games, applications, music and videos.
- payment options based on location and context - payment options based on location and customer context, such as the Starbucks POS m-payment option, are gaining traction and appeal. PayPal's open development platform also allows to develop customer-facing applications based on a customer's location/context.

The key challenge for each bank is to assess its own customer key success factors (KSFs) and its own internal capability to innovate. By evaluating their readiness for innovation in this way, banks can take a customer-driven approach to prioritizing their innovation, taking into account their ability to execute successfully. This kind of approach will help clarify the business case, as customer needs will be driving the innovation strategy. That is the reason for focusing on this factor in the field research.

3   Research

Recently many modern, innovative payment methods have been implemented on the Polish retail payment market (e.g. Poland is one of the biggest market of contactless cards in the world). They have made the retail payments faster, cheaper, easier and more convenient for customers.

The existence of a wide range of payment instruments is essential to support customer needs in a market economy. A less than optimal use of payment instruments may ultimately have a negative impact on economic development and growth (Hasan et al., 2012). Moreover, the safe and efficient use of money as a medium of exchange in retail transactions is particularly important for the stability of the currency and a foundation of the trust people have in it.

Today Polish consumers can choice many modern and innovative payment methods which are fast, cheap and convenient. In spite of that, similarly to other countries, the use of traditional payment instruments, like credit transfers, direct debit, credit cards and debit cards, is still dominant on Polish retail payment market (see figure 4).
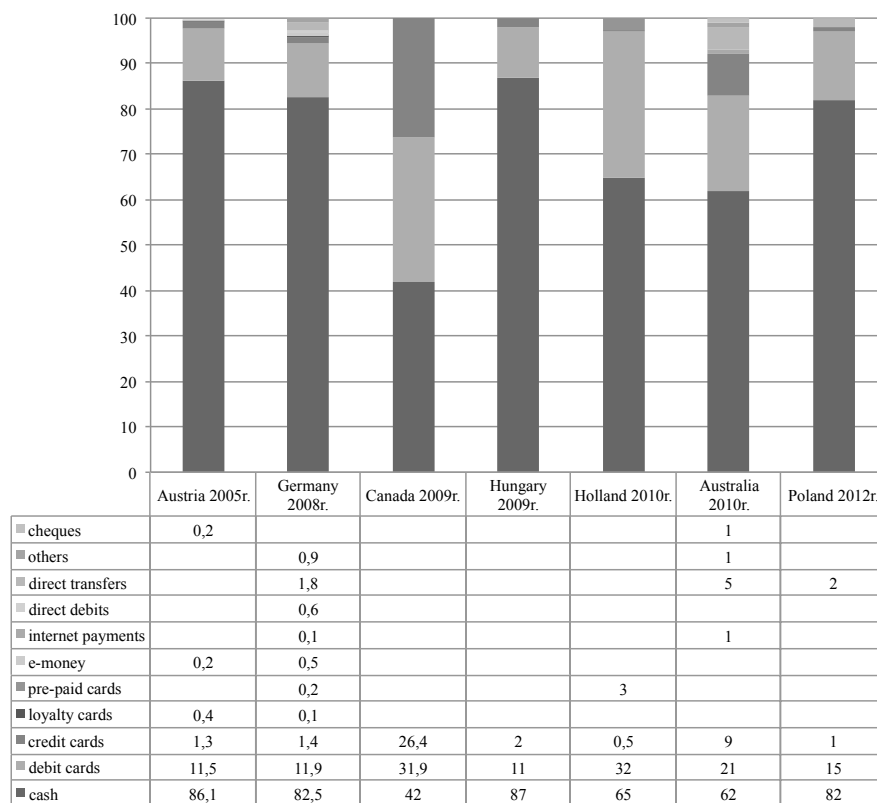
	Austria 2005r.	Germany 2008r.	Canada 2009r.	Hungary 2009r.	Holland 2010r.	Australia 2010r.	Poland 2012r.
cheques	0,2					1	
others		0,9				1	
direct transfers		1,8				5	2
direct debits		0,6					
internet payments		0,1				1	
e-money	0,2	0,5					
pre-paid cards		0,2			3		
loyalty cards	0,4	0,1					
credit cards	1,3	1,4	26,4	2	0,5	9	1
debit cards	11,5	11,9	31,9	11	32	21	15
cash	86,1	82,5	42	87	65	62	82

Fig. 4. Payment instruments structure in selected countries

But during the last decade, card payments in particular have led to a shift from cash to cashless payments (see figure 5). Ongoing innovations in retail payments have tended to a further reduction of the cash market share. However, as cash is used mainly for small-value transactions, especially in proximity and P2P payments, substantial substitutive effects can only be expected for the innovations that target these areas. According to 72% Polish customers, innovative payment methods are a competition for cash payments. Among them 42% stated that they are competitive for all kind of cash payments. For 30% of responders they are competitive only for micropayments. 19% of them declare that they are ready to start using innovative instruments against cash immediately, 34% - under some conditions (especially safety improvement) and 29% - in the nearest future. 22% of responders are not interested in using innovative payment methods definitely.
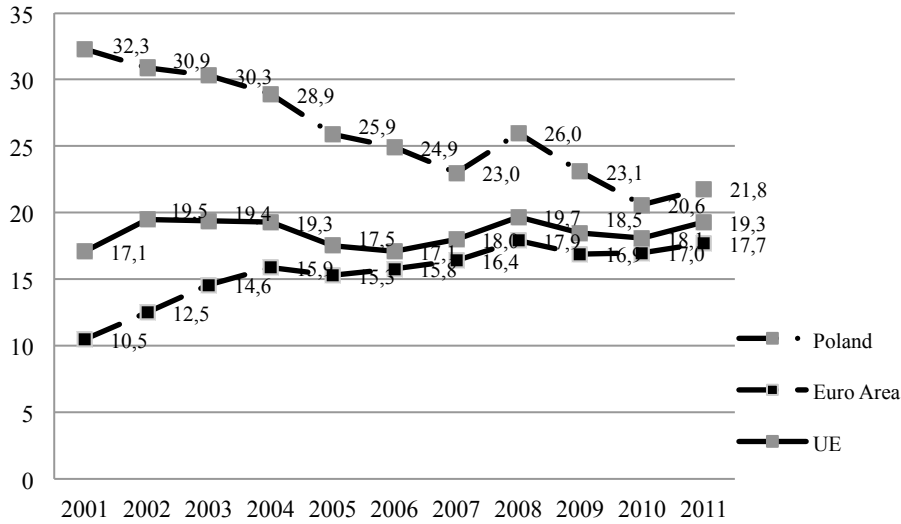
Fig. 5. Share of cash in money aggregate M1 in 2011 (*Porównanie…*, 2011)

About 75% of responders declare that they use traditional payment instrument and think that they are fast, easy, convenient and cheap what means that they in large extent meet Polish customers' expectations (see figure 6).
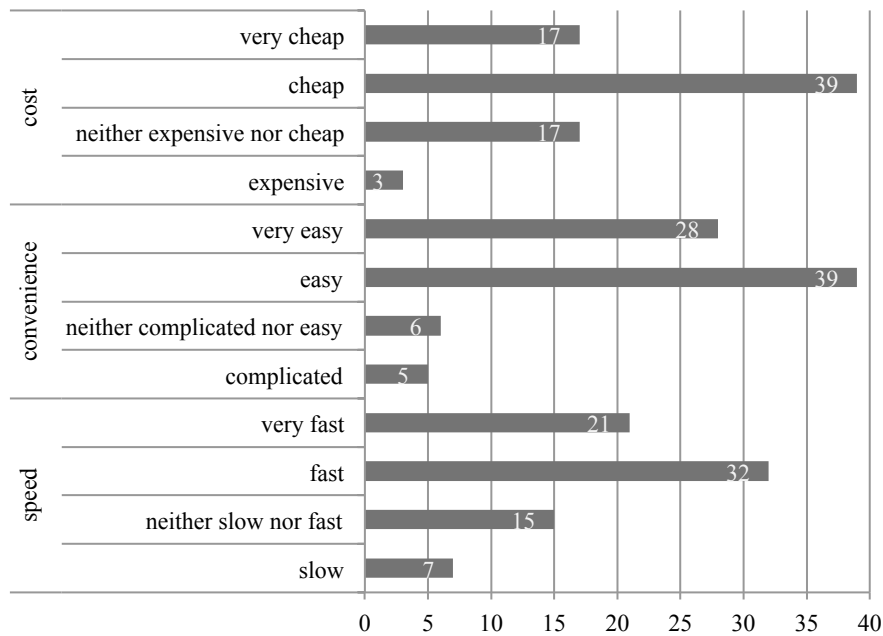

Fig. 6. Polish consumers' opinions on traditional payment instruments

One of the survey purposes was to establish the Polish consumers' knowledge level

concerning innovative payment methods. According to responders the most innovative ones are: contactless payments made by mobile phone, mobile payments, payments made via contactless cards, debit cards with the possibility of making contactless payment and online payments (see table 3).

Table 3 Innovative payment instruments in customers' opinion

Payment methods	% of responders
Debit transfer	6
e-transfer	24
Direct debit	4
Debit card without the possibility of making contactless payment	8
Debit card with the possibility of making contactless payment	37
Contactless card	42
Contactless payment made by mobile phone	66
Mobile payment	63
On-line payment	35

Generally, Polish consumers know innovative payment instruments but they do not use them. The most active group of responders are consumers in the age of 25-34. Contactless payments made by mobile phones or contactless cards are used by 7% of responders in the age of 25-34 and 2% in the age of 45-64. A similar situation concerns mobile payments which are used by 10% of responders under 25 years of age, 7% in the age of 25-34 and 2% in the age of 45-64. Debit cards with the possibility of making contactless payment and online payments are more popular (see table 4). Today the innovative payment instruments/methods such as e-transfers and contactless cards are usually used for micropayments.

Table 4 Knowledge on innovative payment instruments and their usage (% of responders)

Payment methods	Age											
	<24		25-34		35-44		45-54		55-64		>65	
	1	2	1	2	1	2	1	2	1	2	1	2
Debit transfer	60	25	33	59	42	55	45	52	58	37	51	31
e-transfer	40	48	21	78	36	58	37	58	42	40	35	14
Direct debit	57	23	45	45	58	33	50	45	53	30	59	20
Debit card without the possibility of making contactless payment	60	40	30	70	33	67	32	67	30	70	47	35
Debit card with the possibility of making contactless payment	63	35	29	68	48	45	52	43	58	26	33	16
Contactless card	78	0	68	19	79	6	67	8	65	2	33	2
Contactless payment made by mobile phone	68	0	78	7	76	0	75	2	53	2	27	0
Mobile payment	60	10	73	7	73	0	58	2	49	2	24	0
On-line payment	53	40	41	44	55	24	47	27	42	16	18	10

1 means "I know, but I do not use it", 2 means "I know and I use it"

Mobile and online payments have been implemented in Poland relatively late. Considering the Internet access and mobile phones market penetration (which are relatively high and grow fast) the potential for their development seems to be large.

Polish consumers have eagerly adopted mobile phones which serve them as communication devices, sources of entertainment, navigation tools and payment methods. As a result the payment demand is growing up systematically.

4   Conclusions

In the recent years the retail payment market has changed remarkably. A key feature of the retail payments landscape is the long-term shift away from paper to electronic means of payments (Furst and Nolle, 2004). The last decades have brought fast development of innovative payment instruments/methods such as contactless/NFC, online and mobile payments.

An increasing number and variety of payment innovations cause some difficulties in their classification. Generally they are divided into process-oriented and product-oriented innovations. They can also be classified as incremental and radical. Retail payment product innovations include five groups of innovations: innovations in the use of card payment, Internet payments, mobile payments, electronic bill presentment and payment and innovations connected with improvements in infrastructure and security. Process-oriented innovations are related to improvements in payment initiation, overall payment process (including clearing and settlement) and receipt of a payment. The majority of payment innovations are incremental and focus on the way of payment and payment safety improvement. Among the radical innovations are mobile and online payments. On the retail payment market they are introduced mainly by non-bank payment services providers, which are usually more flexible and better meet consumers needs and expectations than traditional PSPs - i.e. banks. Today it is especially difficult for banks to be competitive because they are usually large and mature. Furthermore non-bank payments and electronic money institutions are subject to less restrictive licenses and have to meet lower regulatory burden than an institution with full banking license.

There are many factors influencing retail payments innovations diffusion and development.

Key challenges relating to retail payments innovations diffusion result from a two-sided nature of retail payment market - especially from network externalities existing on their demand side. They are crucial for success or failure of a new payment instrument/method. The factors which could foster and/or impede the development of retail payment innovations can be divided into exogenous and endogenous. Exogenous factors include notably technical developments, user behaviour and regulations and endogenous e.g. cooperation, standardisation, price structure and security (*Innovations*..., 2012). As the fact-finding shows, innovations in the field of retail payments are strongly driven by existing payment habits and consumers need for payment instruments that are more secure, efficient and convenient. If consumers are satisfied with existing payment instruments, they do not look for new ones. Innovations emerging recently on the retail payment market could change the existing payment landscape.

Poland is among the countries experiencing fast development of payment innovations, but rather incremental, like contactless cards. In spite of this, the research findings show that Polish consumers still prefer traditional payment instruments like credit transfer, debit and credit cards or cash, which meet to a large extent their expectations in terms of speed, cost and convenience. According to the majority of responders, innovative payment methods are the most serious competition for cash payments. Over half of them declare to be ready to start using innovative instruments against cash immediately or under some conditions (especially safety improvement) in the nearest future. But we identified a significant gap between consumers' declarations

and practice with reference to innovative payment instruments/methods. Generally the results of research confirm that Polish consumers can identify innovative payment instruments and declare the willingness to use them but only very few of them actually do. Basing on the results of our research we can assume that innovative payment instruments/methods could not reduce significantly the cash usage in Poland in the nearest years.

Our study has focused on the adoption of retail payment from the consumer point of view. As the results of this research indicate, payment habits could be a significant barrier to payment innovations diffusion and development. They might be hard to overcome as they are the result of certain behaviors and attitudes rooted in people's daily experience. These habits run deep and they are sustained despite the costs associated with using cash. Customers are slow to change their payment habits and need several clear incentives in order to do so. On the other hand, consumer expectations and habits are becoming more homogenized. According to many customer survey findings, they will react to price differences.

It can be further implied that there is a need for banking institutions and policy makers to re-orient their existing market policy, in order to enhance and empower customers on the various benefits of retail payment instruments/methods. The following actions could be undertaken:

- promoting non-cash instruments/methods, especially Internet and mobile payments, and the benefits of using them as speed, low cost and convenience,
- developing safety of the innovative payment instruments usage,
- setting the common standards and regulations concerning modern, innovative payment instruments/methods in Poland and all over Europe

Customers education and the involvement in the development of payment services will also be critical to payment innovations adoption. The results also imply that before the launch of a new retail payment instrument/method, payment services providers should take into account not only the willingness of consumers to use them, but also the level of their satisfaction with the existing payment means.

5   Limitations of the research

The presented survey has analyzed the role of habits in the process of developing and adopting new retail payment methods and instruments on the Polish market. There are some limitations of the findings presented in this paper, notably due to the sample concentration on one country and taking into account only the customers' perspective. Further research could also take into account the perspective of banking executives, providers and business customers.

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