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## MICROPAYMENTS ON POLISH INTERNET MARKET

*W artykule tym autor przedstawia problem dokonywania mikropłatności w Internecie. Pod uwagę brana jest głównie sytuacja odzwierciedlająca stan panujący na polskim rynku internetowym. Autor przedstawia klasyfikację różnych rodzajów płatności, w zależności od wysokości kwot wykonywanych operacji. W publikacji zaprezentowano także najpopularniejsze metody mikropłatności - od systemów pre-paid po Premium SMS (Short Messages System).*

*In this article author aims to give you a brief insight into problem of micropayments. Especially author takes into consideration situation on Polish Internet market. In the article classification of payments on Web is presented. In publication are also presented most popular and most profitable methods of micropayments - for example pre-paid system and Premium SMS (Short Messages System).*

### Introduction

In this article I aim to give you a brief insight into problem of micropayments. I especially take into consideration situation on Polish Internet market. First of all, we must outline definition of word "micropayments". In everyday life language term "micropayments" is associated with situation that we spend small amount of money. Evidently, this definition is very inaccurate. Therefore, I will use four terms presented in professional literature:

- macropayments,
- minipayments,
- micropayments,
- milipayments.

The main difference between these terms can be described as a range of amount of money. In Polish literature these ranges are showed in table 1.

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Table 1 Classification of payments on Web. Polish literature approach.  
Source: [1]

Term	Ranges of amount of money (in Polish zlotych)	Ranges of amount of money (in EURO)
Macropayments	More than 1000 zł	More than 250 EUR
Minipayments	From 100 zł to 1000 zł	From 25 EUR to 250 EUR
Micropayments	From 1 zł to 100 zł	From 0,25 EUR to 25 EUR
Milipayments	Less than 1 zł	Less than 0,25 EUR

For Polish market, above table is very typical. However, there are differences in other countries. For example, British publications apply different modifications of table 1 – example is presented in table 2.

Table 2 Classification of payments on Web. English literature approach.  
Source: [6]

Term	Amount of money – in Pounds
Macropayments	More then 1000 £
Minipayments <sup>1</sup>	From 10 £ to 1000 £
Micropayments	From 1 penny to 10 £
Nanopayments	Less than 1 penny

Although table 1 and table 2 look almost similar, there are noticeable differences. For example, the last term in table 1 is “milipayments” but in table 2 it is “nanopayments”. The problem of choosing the best definition is far beyond the scope of my presentation. In my opinion, table 2 is better because it has logical and quite straightforward interpretation.

<sup>1</sup> We can also use another term – mediumpayments.

Table 3 Interpretation of payments on Web.

Source: [6]

Term	Interpretation
Macropayments	Payments that can only be made convenient and cost-effective using electronic funds transfers.
Minipayments	Payments that can be made using a variety of means ranging from credit cards to electronic cheques, where the choice depends on cost and convenience factors but not on technology.
Micropayments	Payments that cannot be made convenient and cost-effective using exiting means (that's why we still use notes and coins instead)
Nanopayments	Payments that cannot be made using any existing payment means whether cost-effective and convenient or not.

The definition of "micropayments" from table 3 is very useful for purposes of my presentation. As we see, the main problem in micropayments can be reduced to a lack of profitable methods of doing small financial transactions.

At the moment in Poland there are four main micropayments methods:

- pre-paid systems,
- dialers,
- Premium SMS,
- small money transfers between individual persons.

The first three methods are typical B2C (business to customer) relations. The last one is an example of C2C (customer to customer) relations.

#### *Pre-paid systems*

The theoretical bases for a pre-paid Internet system has been known for years. From time to time in Poland we also have a possibility to see some new technical solutions. However, solutions proposed in this field are usually unsuccessful and unpopular (a good example was a collapse of Polish web site Well-Pay.pl). At the moment in Poland exists web site Mikroplatnosci.pl [11]. This site offers possibilities to buy non-expensive goods and services via web sites, using Mikroplatnosci.pl. The whole system works in a very simple way (see Figure 1).

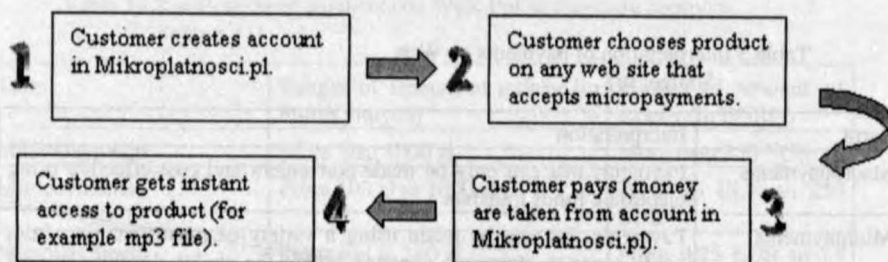


Figure 1. How pre-paid system Mikroplatnosci.pl works.

Firstly, a customer needs to specify a kind of account. Secondly, he or she must transfer some money (about 25 - 100 zł / 6 - 25 EUR) on the account. After these operations the customer is able to perform fast payments directly on web sites (for example in Internet shops). The smallest payment required is at the level of 1 grosz (0,0025 EUR). Evidently, the system is very convenient for small transactions. For example, one can buy article or collect mp3 file. Table 4 shows advantages and disadvantages of this system.

Table 4. Advantages and disadvantages of pre-paid system Mikroplatnosci.pl.

Advantages	Disadvantages
The smallest possible payment is at the level of 1 grosz (0,0025 EUR).	The need to create special account on the web site Mikroplatnosci.pl
Customer can buy interesting goods or services very quickly.	Customer choice is reduced to goods or services only in these internet shops that cooperate with Mikroplatnosci.pl.

First of all, we must understand what dialer is and how it functions. Dialer is a kind of software that changes configuration of dial-up connection to Internet. After dialer installation, user can connect to Internet only by using new ISP (Internet Service Provider) telephone number (how it works – see figure 2).

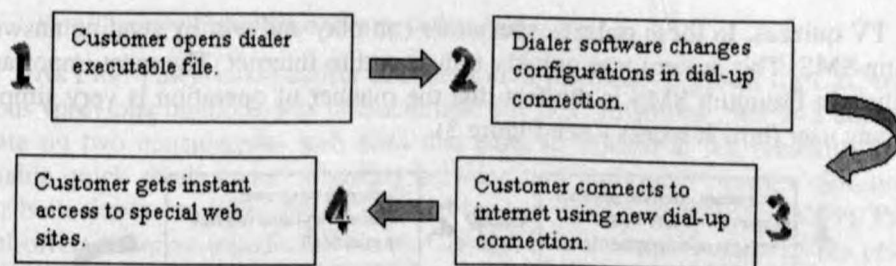


Figure 2. How dialer works.

Obviously, the new ISP is much more expensive than previous one, but user has a possibility to access special web pages. These web pages have often erotic contents what does not give dialers a good opinion. This bad reputation is even exceeded because of their comparison with worms and viruses (this comparison is caused by the fact that users are often not informed about how dialers work). The last drawback for dialers is extra fee that is paid by user for the whole time of connection to Internet, not only for reviews of special pages. However, we must admit that the last dialers generation is better. Users are informed about total cost and can use program exclusively for viewing of concrete materials. Table 5 shows advantages and disadvantages of this system.

Table 5. Advantages and disadvantages of using dialers.

Advantages	Disadvantages
Fast access to interesting materials.	System is quite expensive for customer.
	There are still cases when clients are not informed about all aspects of using dialers.
	Generally, user can use one program to view content of one web page.
	Customer can use dialers only to watch content of special (often erotic) web pages.
	Dialers are generally for dial-up connections only.

### Premium SMS

Premium SMS is, technically speaking, ordinary SMS but mobile telephone user must pay extra fee for sending it to a special number. Ordinary SMS in Poland usually costs 25-50 grosze (0,06-0,12 EUR). Premium SMS costs from 2 to 9 zł (0,5 – 2,1 EUR). Launching of Premium SMS was connected with popu-

lar TV quizzes. In these quizzes spectators can play and win by sending answer using SMS. This system was quickly transferred to Internet. The most important feature in Premium SMS is the fact that the manner of operation is very simple for any user (how it works – see Figure 3).

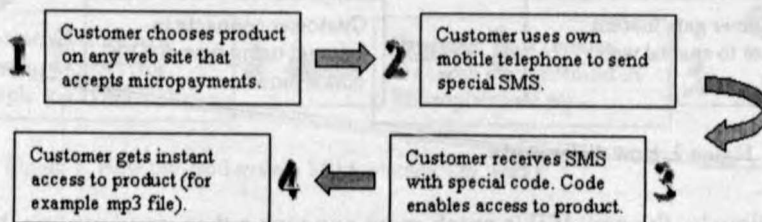


Figure 3 . How Premium SMS system works.

User can choose interesting good or service on web page (of course web page must support Premium SMS as a method of payment). We assume that user decided to buy something. He sends a SMS on telephone number that he finds on web page (telephone number and content of SMS are associated with good or service). As a replay he receives special code which enables access to concrete goods or services (for example mp3 file). Although this system is very easy, there is necessity of having a mobile telephone (last research indicate that only in Poland we have 11,6 millions of mobile telephones<sup>2</sup>). Table 6 shows advantages and disadvantages of this system.

Table 6 . Advantages and disadvantages of Premium SMS system.

Advantages	Disadvantages
Fast access to interesting goods and services.	System is based on principle of exchange of goods (for example - SMS for service).
Customers need only mobile telephone. He or she does not need to create special account or something alike.	System is easy for accustoming by creators of web pages (simply - they only need to copy and paste some fragment of script) but they usually must pay big margin to operators of mobile networks.
	Telephone number can easily identify customer.

<sup>2</sup> Source: Report NETWORKLD <http://www.networkld.pl/news/news.asp?m=35&id=50451>

### *Small money transfers between individual persons.*

As I have mentioned earlier this method of payment is typical for C2C relations (previous methods was characteristic for B2C relations). We will concentrate on two considerable web sites that exist in Poland at the moment. They enable quick small money transfers between two individual persons. Solutions for both sites were originally introduced by American web site PayPal [9]. PayPal offered money transfer by email. Clearly, it is a simplification of the problem, because in transaction PayPal must mediate. This method was firstly introduced in Poland by Internet Bank Inteligo [8] (how it works – see figure 4).

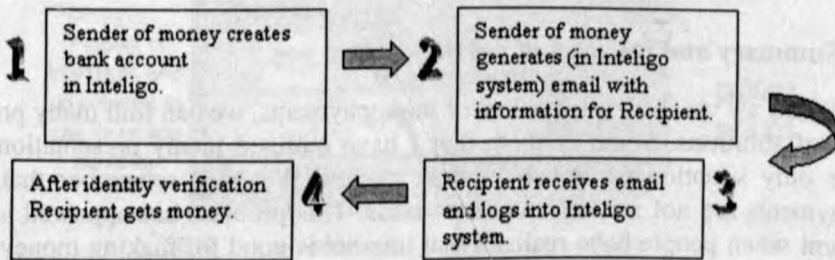


Figure 4 . How “EmailMoney” works (source : [3]).

Inteligo called this service “EmailMoney” (there is also a modification of this service called “SMSMoney” – customer can use SMS instead email). The whole process relies on generating email (within a service of „EmailMoney”). Email is generated on behalf of user that want to transfer money to another person. Recipient receives email, logs on to web site Inteligo and indicates own account. To sum up, all procedure is not very simple and is more complicated than sending ordinary email. The main disadvantage is a fact that both parts of transaction must have bank account in Inteligo.

The second similar system in Poland is PayU [7]. Customer sends email and must also have account in the system (in all procedure PayU mediates). We must indicate that procedure of creating account is very quick and customer can do this straightforwardly.

Generally speaking, both systems enables quick and efficient small money transfers (in PayU the lowest transfer is at the level of 10 groszy – 0,0025 EUR). Usefulness of these systems is obvious, especially for users who buy and sell goods at the internet auction (it is important because - for example - the biggest

Polish internet auction web site achieved growth of trade turnover at the level 80%, last year<sup>3</sup>). Table 7 shows advantages and disadvantages of the system.

Table 7 . Advantages and disadvantages of system.

Advantages	Disadvantages
Fast and efficient method of doing small payments.	User must create account via intermediate web site.
Transaction could be anonymous for each part.	There could be margin for each transaction.
System is quickly accessible for every individual.	

### Summary and prospect of development

When we speak about problem of micropayments, we can find many proposition of solutions. Some of them that I have outlined in my presentation describe only situation on Polish Internet market. We must remember that micropayments are not a completely new issue. This problem has appeared at the moment when people have realized that internet is good for making money (we must remember that first Micro Payment Transfer Protocol (MPTP v0.1<sup>4</sup>) was introduced in 1995). Moreover, we must also notice that micropayments are only a part of the whole payments system in Internet. In many situations credit card is perceived as the most efficient solution for individual customer (on the other hand in Poland are still popular trivial methods – for example in the middle of 2001 most popular method (90 %<sup>5</sup>) was postal collecting). Unfortunately, we cannot use credit card in really small payments (at the level of a few zlotych or euro) because it is economically inefficient. Uniqueness of Internet business causes that customer can buy goods or services that are worth less than 1 zł (or 1 Euro). These goods are, for example, press articles, music files, melodies for mobile telephones etc.

We can see that most web sites cannot exist with on-line advertisements as a sole source of income. Introducing subscription fee is probably not the best alternative because customer must pay for everything, often for something he or she does not need. This is the reason why we look for further enhancements.

<sup>3</sup> Source: <http://www.computerworld.pl/news/news.asp?id=51083&m=1>

<sup>4</sup> Source: <http://www.w3.org/TR/WD-mptp-951122>

<sup>5</sup> Source: <http://www.pckurier.pl/archiwum/art0.asp?ID=4738&Poprzednie=1>



Existing solutions were found quite unsuccessful (for example digital money – CyberCash, DigiCash etc.). What are main reasons of the unsuccessfulness? Generally, they were said to be unpractical or unsafe. Moreover, we cannot forget about psychological reason that people simply do not want to pay for something they used to get for free. Many internauts have been accustomed to free of charge access to “knowledge”. We can see it clearly when we look at the results of European internauts opinion poll (see figure 5):

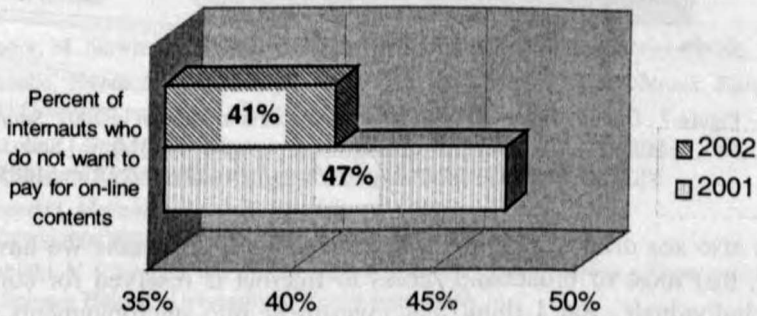


Figure 5 . Percent of Intranets who do not want to pay for on-line contents. Source: <http://www.internetstandard.com.pl/news/news.asp?m=29&id=50836>

We can see that above figure confirms our earlier speculations. One promising feature is that bad trends have been inverted. Now we can concentrate on reasons of this change in trends. The answer is showed in Figure 6.

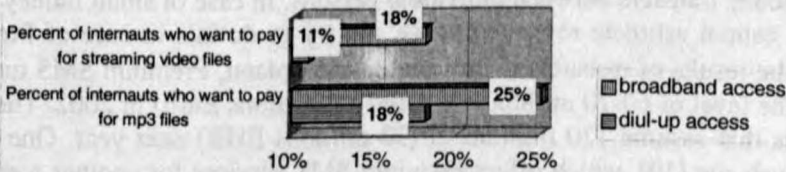


Figure 6 . Percent of internauts who want to pay for streaming videos and mp3 files. Source: <http://www.internetstandard.com.pl/news/news.asp?m=29&id=50836>

We can assume that the development of micropayments could depend on broadband technologies. The observed trends in Great Britain, USA and also in Poland are quite promising (see figure 7).

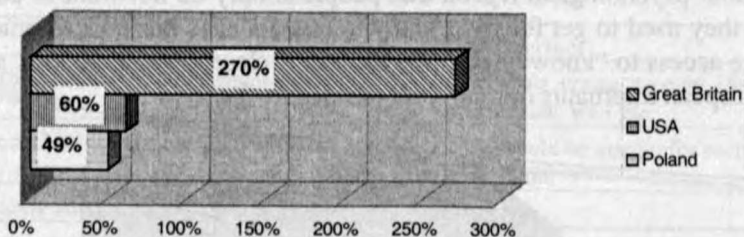


Figure 7 . Growth of popularity of broadband access to Internet in 2002. Source: <http://www.computerworld.pl/news/news.asp?id=51181&m=1> and <http://www.internetstandard.com.pl/news/news.asp?m=29&id=51085>

We also see drop in dial-up access technology. Of course we have to remember, that most of broadband access to Internet is reserved for companies, not for individuals. But I think that investment into micropayments systems could be profitable.

Which domain (goods and services) could be most profitable? Not only music files and press articles are “in sale”. The market research indicates that Japanese collect 80 millions melodies for mobile telephones each month. European market for mobile telephone games (of course we can find games in Internet!) is estimated at 3 billions Euro. Even market for small press announcements has brought revenue of 1,6 billion Euro<sup>6</sup>.

Unfortunately, we still cannot find any dominant standard for micropayments. Situation in Polish reduces to two good methods – Premium SMS and small money transfers between individual persons. In case of small money transfers we cannot estimate revenue but we can try to do this in case of Premium SMS. The results of researches<sup>7</sup> indicate that in Poland, Premium SMS turnover was at the level of 60-70 millions zł (about 15 millions Euro) in 2002. There are forecasts that assume 120 millions zł (30 millions EUR) next year. One of the Polish web site [10], which offers Premium SMS services for another web sites, has presented data showing 100% monthly growth interest in the services. It

<sup>6</sup> Source: Internet Standard, press review 30 XII 2002.

<sup>7</sup> Source: <http://www.internetstandard.com.pl/artykuly/28457.html>

looks very good but there are still serious problems – for example very high margin for mobile telephone operators (about 50%).

The main aim of my article was to show chances and threats standing behind micropayments. We can see that problem of micropayments has not been definitively solved. I suppose that evolution of mobile technology and generalisation of broadband access to Internet will cause more than one positive revolution in this field.

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