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DEVELOPMENT OF INTERNET-BASED VALUE ADDED SERVICES FOR HOUSING ESTATE BUSINESS IN RUSSIA

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ABSTRACT

Value added services are becoming increasingly popular as they increase the perceived value of the core product and can be a strong method of attracting customers and motivating them to make a choice. The purpose of this research is to develop internet-based value added services for housing estate business in Russia. The research is a case study of Russian housing estate market utilising a triangulation of methods for better results. For the qualitative data analysis, 7 interviews with heads of regional departments of construction companies from different regions of Russia were conducted. For the quantitative data analysis, a survey of 128 inhabitants of Saint-Petersburg housing estates was held. Factor analysis and descriptive statistics including cross-tabulations and chi-square tests for significance were used to analyse the results. In this study, a list 19 value added services that can be provided through online platforms in housing estate market was developed. These services fall into three big groups: social networking services, compulsory and additional services. Additionally, the question of monetisation of online platforms in housing estate market was discussed and three business models were suggested.

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Introduction

Background

Nowadays customer-oriented industries have significantly changed. Currently, customers expect from the purchase more than just a product or service. They tend to become loyal if their expectation are met; to reach it companies usually offer their clients some additional things. These additional elements are called value added services. Such services have positive impact on the perceived value of the core product [van Riel et al., 2001, Gwinner et al., 2000]. Therefore as consumers tend to expect high quality of the core product and take this high quality largely for granted [Gwinner et al., 2000], value added services play a significant role in modern business. Another reason for value services introduction is the fact that physical products don't provide companies with competitive advantage, financial performance or market opportunities anymore [Oliva, Kallenberg, 2003; Gebauer, Fleisch, Friedli, 2005]. Also value added services help companies to deal with low or decreasing revenues from the core product [Ahn et al., 2011; Goyal, 2004]. So the better value added services the company offers the higher is the value of its core product from the customer perspective. Thus value added services is becoming one of the key competitive advantages for companies on different markets.

These changes started in 90-s when value added services were first introduced in telecommunication industry. Since then many different studies were conducted on the topic of value added services: Dowling (1991), Stoetzer (1992), Wittenbach (1995), Goyal (2004), Ulaga and Reinartz (2011) and many others.

All business fields and issues, including value added services, changed significantly with emergence of the Internet, for example, new e-business models appeared [Casadesus-Masanell, Ricart, 2009]. Also Internet-based value added services differ a lot from basic ones, which is very common for the majority of e-services based on traditional ones [Riedl, Leimeister, Krcmar, 2011].

All the mentioned changes have global character and affect almost all industries in all countries. Previous studies were conducted to identify peculiarities of different regions [Dowling, Witte, 1991; Stoetzer, 1991], nevertheless, Russian market have not been examined yet. The need in development of value added services is increasing in different

business fields: foodservice [Wittenbach, 1995], internet telephony [Wang, 1999], next-generation networks [Whalley, 2008], health micro insurance [Pott, Holtz, 2014] and many others. Housing estate is not an exception as the changes affect this industry, too.

Key definitions:

Business model – a simplified description of a complex business, which allows to explore its structure, different elements' relationships and its response to the real world [Applegate, 2001].

Value Added Service – additional service, not a part of primary business activity, which creates additional value for the clients.

E-service is considered to be a service that is provided to the customers over electronic networks [Rust, Kannan, 2003].

Commoditisation – a process by which products tend to lose their uniqueness and respectively value for customers [Davenport, 2005].

Research problem

Despite the fact that the topic of value added services is rather new there are many different studies covering this topic. Researchers suggested different classification of value added services [Youngdahl, Loomba, 2000, Backhaus et al., 2010, Ulaga, Reinartz, 2011], identified their effect on customers' behaviour [Gwinner et al., 2000, van Riel et al., 2001] and analysed strategies of their development [Oliva, Kallenberg, 2003, Matthyssens, Vandenbempt, 2010].

The least studies field of value added services is the implementation issue, which implies studying particular examples of value added services provided in various business fields. There are several researches regarding implementation of value added services in such industries as internet telephony, foodservice, logistics and healthcare micro insurance. However, there is a limited number of researches in housing estate business field, especially regarding the issue of online services.

The topic of online value-added services in housing estate market in Russia is very significant. The housing estate business is different from other industries that sell real things:

purchasing a housing estate is very important decision customers as the price of the housing estate is very high. That makes customers to be very cautious and accurate; they discover all available information before the purchase. As value added services increase the perceived value of the core product [van Riel et al., 2001, Gwinner et al., 2000] it can be a strong method of attracting customers and motivating them to make a choice.

Currently, internet-based value added services started to develop in housing estate business as internet is one of the easiest ways to communicate with consumers. However, their development is still very slow, especially in Russia. It means that companies that will be the "first-movers" in internet-based value added services implementation can get a very strong competitive advantage on the market. Also there should be some special place for offering value added services tightly connected to a particular housing estate company to get all the benefits of such services implementation. Private online platform can be such special place for customers.

Therefore, the aim of this research is to identify the opportunities of internet-based value added services provided through online platforms in housing estate business in Russia. The research question and sub-questions are presented below.

Research question: What are the opportunities for development of online platforms in housing estate business in Russia?

Sub-questions:

- Is it relevant to develop private online platforms for value added services provision in housing estate business in Russia?
- What are the internet-based value added services that can be provided in housing estate business in Russia?
- What are the possible earnings logics through internet platform in housing estate business in Russia?

Organisation of the study

The research consists of four main parts. First chapter reviews theoretical background and consists of two main parts: the concept of business model and the concept of value added services. Value added services are the part of companies' business models, so the brief description of the business model concept is presented. Then the modern (online) business and revenue models are considered as they are the prerequisites to the issues of value added services and are also necessary for answering the third sub-question of the study. The second part of the first chapter is devoted particularly to value added services as the central field of this study. Firstly, the definition of value added service and explanation of their effects are presented to give the overall understanding of the issue. Then different strategies of value added services provision are examined in order to clarify the direction of the future research. In addition, value added services are categorised in this part of the study to review the issue from different perspectives, which cam assist in the development of value added services. The second chapter of the research presents the brief description of methods that were used during the study and the reasoning behind their selection. In the third chapter the main findings of the study are discussed and described in details. This part is organized according to used methodology. The last chapter of the study represents theoretical contribution of this research, into the scientific field, managerial implications with practical recommendation to companies and limitations of the research. Future research directions are also suggested in this part.

Chapter 1. Theoretical Background

1.1. The concept of Business Model

1.1.1. Defining Business Model

There are many different approaches to definition of a business model. Some researchers assume that business model should follow a certain structure when describing any business. Three-dimensional models were described by Timmers (1998), Osterwalder, Pigneur (2002) and Cea-Esterualas (2013). Taking into consideration key differences and similarities among them, this study suggests three generic dimensions of business model: description of product and value proposed to consumers, a network of actors involved (it may include organisational architecture as well as market environment) and financial flows model (including revenue generation and financing). Other researchers [Applegate, 2001; Petrovic et al., 2001; Auer, Follack, 2002] view business model as a simplified description of a complex business without any certain structure in it. However, they set following requirements to this description. For example, it should allow to explore structure, different elements' relationships and response to the real world [Applegate, 2001]. Despite the fact, that the latter approach may be more relevant for practical implementation and description of particular company business model, a defined structure may be more helpful for comparison of different models or while creating general business models for whole industries. A synergy of both approaches was reached in the research of Shafer, Smith and Linder (2005). Researchers studied twelve different business models definitions [Timmers, 1998; Hamel, 2000; Afuah, Tucci, 2001; Amit, Zott, 2001; Weill, Vitale, 2001; Dubosson-Torbay et al., 2002; Magretta, 2002; Rayport, Jaworski, 2002; Van Der Vorst et al., 2002; Hoque, 2002; Chesbrough, 2003; Hedman, Kalling, 2003] and created an affinity diagram to compare them all. As the result of the analysis, four main components of a business model were determined, which can be very useful for comparison of particular cases or in practical use by companies (Figure 1). However, this approach is too detailed to be used in theoretical development of business models. As this study aims to develop business models for housing estate market in general, a broader perspective should be taken into consideration. A generalisation of business model components developed by Shafer et al. (2005) results in the already proposed definition of business model generic dimensions: description of product and value proposed to consumers, a network of actors involved and financial flows model.
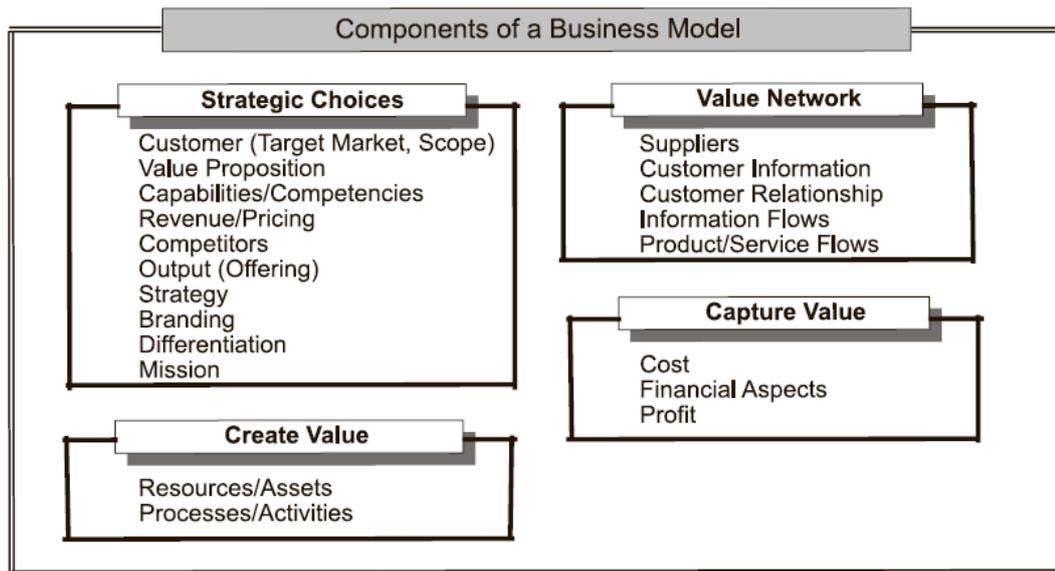
Figure 1. Components of Business Model
Source: Shafer et al., 2005

1.1.2. Internet Business Model

With the development of the internet and its' wide adoption in all spheres of life including business, new business models appeared. The key difference between online business models and traditional ones is that online business models are mainly focused on the issue of generating income on the Internet rather than on any other issues [Casadesus-Masanell, Ricart, 2009].

One of the broadest definitions of an online business model was suggested by Lyubareva et al. (2014). The main concept proposed by the researchers includes three elements, which remind generic dimensions suggested in this study. Three main components proposed by Lyubareva et al. (2014) are creation of value, value capture and value network. The first component includes three different areas [Lyubareva et al., 2014]:

- position of the company in the value chain, specifically original creation activity;
- market segmentation, namely, identifying whether the offered content is a mass market one or it attracts some special interest and market segments;
- conditions of the content exploitation defining its value: the way of consumption (online / offline), temporary access available only through content location, and multiple offerings, for instance, streaming or downloading, which indicates strategic choice of the offer diversification.

The second element of a business model is capturing value, which depicts the digital content revenue generation mechanisms and embraces four main types [Lyubareva et al., 2014]:

- revenue sources: subscription fee and pay per view;
- unearned revenue: selling sponsored links and advertising;
- public financing and donations;
- offering free content.

The third dimension of a business model is value network; it describes suppliers of the offered content and its distribution [Lyubareva et al., 2014]. Firstly, it refers to the first two elements of a business model value creation and value capture which manage the presence of external producers' and user-generated content; the latter includes reviews and self-produced content. Also value network dimension is about the distribution channels. This dimension controls the way of delivering the content, which can be distributed via multiple channels or not. For example, the content can be offered through different platforms or physical support. Summarising, this definition fits the generic dimensions suggested in this study, however makes stronger emphasis on online nature, therefore it will be used for the development of business models in further chapters.

The development of new business models for housing estate market will be based on different business models categories suggested by other authors. With the increasing popularity of online business models many approaches to categorisation were undertaken by different authors. Hayes et al. (2005) provide business models categorisation that combines three different researches [Ticoll et al., 1998; Timmers, 1999; Kaplan, Sawhney, 1999]. Researchers suggested that electronic business models could be classified according to five different characteristics: the way of exhibiting the economic control degrees, functional and value chain integration, business and technical innovations. However, the model refers to organisational perspective rather than industry in general and does not provide the details behind factors mentioned; therefore, it will not be taken into consideration in this study.

Another approach to e-business models categorisation was created recently by Lyubareva et al. (2014). It relates to digital media and is based on empirical study of 34 cultural content websites. Authors found out that all internet media business models can be divided into three different classes: participative, distribution and editorial models. The first class of online business models assumes using sponsored links and advertising as the main revenue source.

The content in this type of business model can be generated by users or by the company itself; also the self-produced content can be mixed with the content created by third-parties. Participative model is characterised by offering multiple ways of content exploitation like downloading and streaming. The most crucial factor for value creation in this model is users' contributions. In this internet media business model the content is offered for free, however some revenues can be obtained from the end market by using advertising-based model. Advertising-based model assumes company to act on a multi-sided market providing customers with free-of-charge content and gaining profit from selling advertisers an access to the customers [Rochet, Tirole, 2006].

The second class of internet media business models is distribution model. This business model is characterised by focusing on a particular segment of the market by attracting attention of the special-interest users groups [Lyubareva et al., 2014]. Distribution model assumes developing a unique content inside the firm without any external parties, either professionals or users, and delivering it through different platforms and physical supports. The major part of revenues in this business model is received by offering the content for a charge, however, some content can be provided for free. Also some revenues can be gained by public funding and donations. Sponsored links and advertising are not widely used in distribution model because of high level of content specificity. This revenue generation mechanisms is usually used in the mass market with universal content offered to a great number of customers; on the specific market with unique content the application of sponsored links and advertising are rather limited.

The third class of internet media business models is editorial model. This business model is characterised by offering content from external professional for a charge; free content is almost never offered to users [Lyubareva et al., 2014]. In editorial business model there are two main ways of offering the content: for offline and for online (rental) consumption. Firstly, the content can be designed for offline usage; this type of selling the content assumes that the purchased piece of content can be used by the consumer forever. The second type of offering the content is rental system where a user gets access to a piece of information for a particular time period and where the level of access (permitted actions and amount of information, for instance) depends on the amount of payment. Editorial internet media business model is similar to a "merchant" mode of intermediation [Hagiu, 2007]. where a

firm acts like an intermediary buying content from sellers and reselling it to the end customers.

Talking about online platform in housing estate market, the content generated is news about housing estate, therefore distribution and editorial models that are based on selling of the content do not fit. Participative model perfectly fits to the case; however, it suggests only advertisement as a revenue source. Therefore, a more detailed analysis of other ways of monetisation should be conducted.

1.1.3. Online earnings logics

There are different studies on the earnings logics of internet platforms. Clemons (2009) suggested There are different studies on the earnings logics of internet platforms. Clemons (2009) suggested the idea, that there are two main types of earnings logics: consumer-focused e-commerce and advertising. The researcher pays special attention to earnings logics other than advertising as he believes that online advertising doesn't meet current expectations of companies. Clemons (2009) states three main reasons of online advertisement failure:

1. The lack of consumers trust in advertising. It was defined that messages from rating services have more credibility among customers, while the influence of the commercial sources on the product perception is rather low. This idea was supported by the research conducted by Ariely (2008).

2. Reluctance to view advertising. To prove this Clemons (2009) describes a real-life example of television: advertisements are shown on all the major channels almost at the same time, so that viewers cannot avoid them by channel surfing. In case customers desired to watch ads it wouldn't be necessary to synchronize advertising on different networks.

3. Advertising is not necessary for customers. Customers act in a way as if the main part of information about offered products is obtained from two types of Internet sources: independent professional ratings and communities with user-generated ratings.

Despite the fact, that according to several researchers there is a high probability of advertisement model failure, currently it is being widely used by different companies. Dasgupta (2013) analysed revenue models currently used by the most popular social networking web-sites; it was found that the majority of the reviewed companies use advertising revenue model. The results of Dasgupta's research with particular examples are presented in Table 1. Dasgupta's study was based on the social networks revenue models classification suggested by Laudon and Traver in 2007. The researchers suggested three types classification of social networks revenue models: advertising, subscription and transaction.

The first social networks revenue model is advertising, the most typical revenue model except sales. This model is based on contacts with advertisers; advertisers pay the company for placing advertisements.

The second social networks revenue model is subscription model. The company sells the access to the content to its users for a particular time period usually day, month or year for a subscription fee. The access restrictions differ among different companies; each firm makes decision about users' rights (read, download, etc.) and sets the fee, the level of the charge can be different for different access options.

The third social networks revenue model is transaction model, where the company provides its customers with a place for conducting transactions [Laudon, Traver, 2007]. In this model the company acts as a market place operator and gets a commission fee from the customers' transactions. There are two types of customers: sellers and buyers; the role is not fixed and the same customer can both sell and purchase goods or services. There are also two types of fees that can be applied on the market place operator's platform: fixed fee or percentage from the transaction. In housing estate the most evident way of getting commission fee is connected with communal services payments. However, introduction of additional fee might be a significant threat for the online platform: it will make the platform less attractive in comparison with the common payment methods. As a result, inhabitants' interest in using the online platform can decrease a lot.

According to the results of the research, 13 of 15 (about 87%) popular social networks from different countries are using advertising as their source of revenue. It shows that despite Clemons's (2009) ideas advertising is still widely used and brings much revenue.

Table 1. Popular Social Networking Sites' Revenue models

Name	Context	Revenue Model	Users (in Millions)	Origin
aSmallWorld	Social	Advertising	.15	Sweden
Bebo	Social	Advertising	22	US
Classmates.com	Social	Advertising/Subscription	40	US
Draugiem	Social	Advertising/Transaction Fee	.8	Latvia
Facebook	Social	Advertising/Transaction Fee	13	US
Friendster	Social	Advertising	36	US
Linkedin	Business	Subscription/Transaction Fee	8.5	US
Myspace	Social	Advertising	130	US
Orkut	Social	Advertising	37	US
Passado	Business/Social	Advertising	4.7	UK
Plaxo	Business	Subscription/Sale of product or service	15	US
Ryze	Business	Advertising	.25	US
Spoke	Business	Advertising	35	US
Stayfriends	Social	Advertising/Subscription	3.5	Germany
Xing	Business	Advertising	1.45	Germany

Source: Dasgupta, 2013

Referring to [Clemons, 2009], there are three ways of monetisation of internet platforms – selling real things, selling virtual things, and selling access. Despite the fact that author doesn't believe in the future of advertising, advertisement-based revenue models can be found in selling of virtual things and selling of access.

Selling real things perfectly matches free-to-use internet platform concept, as companies are investing in internet services to attract customers to buy their goods or services. Selling real things through online platforms in housing estate market can refer to selling of additional construction services: finishing of apartment and layout changes. These services should be sold while the construction is going, therefore only customers, who are participating in shared construction, can afford them. Therefore, this can be not only a revenue source, but also a strong incentive to participate in shared construction. Nevertheless, only companies with strong brand, which consumers have relatively high initial expectations of the value added service quality, can sell the product and the service simultaneously. Companies, which consumers have relatively low expectations, should decrease the degree of information asymmetry to sell the service and product together. In other cases, the service will be sold

during the product life cycle, and this does not fit to the mentioned construction services [Zhang et al., 2014]. The revenue source is commission the construction company pays to the service company for the attracted customers. This can be a fixed commission or a percentage from the revenue earned on additional construction services.

Clemons (2009) proposes that selling virtual things can be divided into five different categories according to the type of things that are being sold:

1. Content and information. Content and information can be sold through subscriptions, or by direct purchasing. The researcher states that some websites like Business Week or the New York Times are looking for an effective business model, however currently they are financing themselves by placing advertisements. It is not clear, why the author attributes such websites to selling virtual things, when they perfectly fit selling access.

2. Experience and virtual community participation. The best example for this category of selling virtual things is pay-to-play online games, such as World of Warcraft.

3. Information gathered from online experience. For instance, information from Facebook or any other social network can be used for commercial purposes in background checks, targeted advertising, and evaluation of market trends. It is a bit unclear, why consumer-targeted advertising element is included in selling things monetizing type, when it is more suitable for selling access.

4. Virtual communities' accessories. This type of "selling" generally refers to the gaming industry. Most of free-to-play online games utilize this revenue model of selling in-game items. Examples: Dota 2, League of Legends etc.

5. Content from virtual communities. Information obtained from online networks like Facebook is realized to traditional business. This group is similar to the third one – selling information gathered from online experience.

Selling virtual things is hardly realizable on the Housing Social Network. Selling of information and content is inappropriate, because, firstly, in State Information System this is realised on free basis and secondly, fresh news and information about housing estate is one of the core reasons to use the platform: without it, there will be no users. Another way of selling virtual things is selling of virtual accessories and this one is based on selling good

feelings and emotions. In free-to-play games industry, selling of virtual things is the main way of earning revenue. It is possible through selling unique in-game items that make a user feel better because of enhancing in-game experience or because only limited amount of users have it (elite feeling). This study suggests that the main psychological reason of all in-game purchases is addiction to the game world. Social nets started utilizing this addiction trying to sell unique "emoticons" – pictures, sent through messages to express emotions. Obviously, their success cannot be compared to the gaming industry. The main conclusion to the Housing Social Network is that selling of virtual accessories is possible only in case of users' addiction to it. Moreover, it is definitely impossible in the beginning of the usage.

Selling of access can be interpreted in several different ways. The first one is selling of access to content, which was called "freemium" model by [Anderson, 2009]. This model implies that the software, web-content and services are provided to different types of users, including the basic one. This basic tier always provides user with a limited access, while the full access must be paid. According to "freemium" model only 1% of users shifts from the basic type and pays for the product or service. As the expenditures for the good production are low the shifted users' payments cover all the costs, while other users stay at the basic tier and use the product of service free-of-charge [Anderson, 2009]. Another model of selling access is "free-through-advertising" model. This one is supported by [Clemons, 2009]. "Free-through-advertising" model assumes that the customer is provided with product or service for free. The company can eliminate customers' payments because the advertisers become the source of revenues in this model. Third-party companies (advertisers) pay for access to company's clients, who have particular interests, which are demonstrated by their use of the offered products and services. While selling of access to content is hardly realizable on the Housing Social Network, selling of access to customers ("free-though-advertising" model) can be used as one of the strongest sources of revenue. Construction companies, selling apartments for finishing, can benefit most from selling access to customers to hardware stores. The price of advertisement can be increased by applying filters (age filter, interests filter). However, to implement those, users should be motivated in filling their personal profiles.

In addition, there are some examples of earnings logics that only partly fit the discussed categories. Some modification of freemium model was suggested by [Mounier, 2011]. Two major economic models in the field of open access academic publications are discussed in

this study. The first economic model is subsidy based model. This model is prevailing among social and human sciences, where open access publishing is usually funded beforehand, by grants from different research institutions. Referring to the Housing Social Network, this is the way, how similar platforms operate now in most cases – the construction company acts as a subsidy issuer. The second economic model proposed by Mounier (2011) is the "author-pays" model. In terms of funding this model is similar to subsidy based model as the payment is done in advance. The authors usually bear all the publishing costs of their articles and books on their own without any external financing. The consumers usually get the content for free in open access as the all the expenditures were already covered by the author. "Author-pays" model cannot be applied to the housing estate platform, as the issuer of the content is service company, not a third party.

Another classification of revenue models for websites was suggested by Lyons (2012). She distinguishes nine different models of how a website can earn revenues: utility, advertising, subscription, infomediary, community, merchant, manufacturer (direct), and brokerage and affiliate models.

The first utility model supposes users to pay money to provider (the website) for services, which become available only after the payment is done. Lyons (2012) advertisement model is similar to the Laudon's and Traver's (2007) one. In the advertisement model advertiser presented by a third-party pays money to the company that provide content on the website; then the advertisement is being placed. Content is provided to the customers for free; the customers in turn view the advertisements. The third revenue model is subscription model, which duplicates the first model, where users pay website for services. The next infomediary model is similar to advertising model, the difference is that in infomediary case the website consolidates different third-parties' services into one list and give the user opportunity to make the choice themselves. In other words the provider gives its users information about service-providers and sometimes gives them opportunity to participate in the service creation and rank service providers. The service in this model is provided by the "advertiser" – third-party service-provider. Community model combines subscription and advertising models with some additions. The company provides its customers with a website, where they can create their own content; also the company provides some special services for a subscription fee (subscription model). The user-generated content attracts other users and enlarges the client base of the website. Third-party companies (advertisers) pay to the web-site provider

for placing their advertisements (advertising model). The merchant model works the following way: the user pays to the website to get access to the goods and services. All the products and services available on the website can be produced by the provider itself or procured from third parties. The manufactures (direct) revenue model is similar to the [Clemons, 2009]. selling real things, where used pays the provider for the product or service. The penultimate revenue model is brokerage model. It supposes that users pay money to broker (website), which brings buyers and service providers together. Also the broker can be involved into a transaction (service exchange) itself. The last model in Lyons's (2012) classification is affiliate model. Affiliate revenue model is a payed-for-performance one, where a business pays sellers a commission to for performing a particular action that leads to getting a measurable outcome. The partner company (affiliate) places an affiliate link on its website, which includes an identification code that helps to track clicks and sales. The seller advertises and sells its products or services through such links and pays the commission to an affiliate. The affiliate in this case acts as an intermediary between sellers and buyers. There are different terms of paying the commission depending on the actions; commission can be paid for clicks, landing, leads or sales. Affiliate revenue model is considered as a win-win solution for both the merchant and the partner company (affiliate) as both get measurable outcomes: the seller realizes his products or services and the affiliate company gets the revenue in a form of commission.

1.2. The concept of Value Added Services

1.2.1. Defining Value Added Service

Value added services (VAS) first appeared in the telecommunications industry in 90-s. More than twenty years ago, there was no precision in the use of this term. Stoetzer (1991) one of the first stated the definition for value added service: VAS is a telecommunication service that, firstly, combines the use of computers and telecommunications networks, and secondly, adds value (new functions) to the customer in comparison with the plain old telephone service. As value added services moved beyond one industry, in this study they are defined as following: VAS is an additional service, not a part of primary business activity that creates value for the customers.
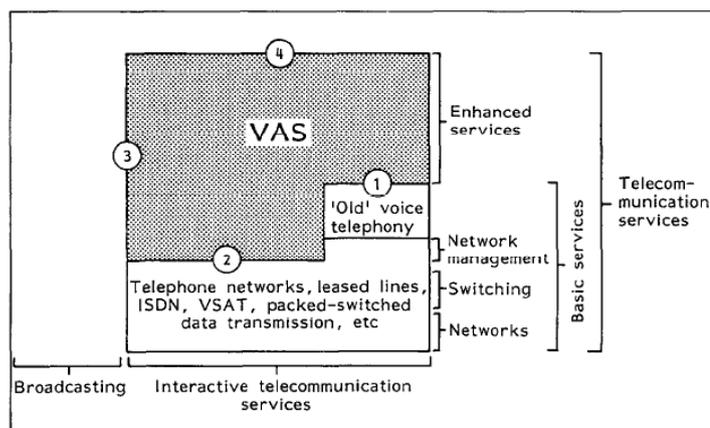
Figure 2. The boundaries of VAS in telecommunications

Source: Stoetzer, 1991

Figure 2 is a graphical representation of four main problems of identifying VAS in borders of telecommunication industry [Stoetzer, 1991]. However, most of them are relevant for other business fields as well. Circle 1 represents the first problem of identifying VAS in borders of telecommunications – it was difficult to split up traditional telephone services from the new ones which added value to the simple voice transmission. The problem still exists: after some time of value added service implementation, it often gets tied up with the product in customers' perception [Oliva, Kallenberg, 2003]. The second issue (circle 2) is referred to a need to distinguish telecommunication services offering from telecommunications network maintenance. Circle 3 represent the issue of excluding all different kinds of broadcast telecommunications from value added services. It worth mentioning that this border is very blurry, because in some cases broadcasting may work as a value added service. The author supposed that this border might vanish in the future. It may have disappeared in telecommunications; however, it still resides in general terms. Many of supportive and maintenance services provided by different companies in various industries may be considered to be value added services and separate activity at the same time.

After the implementation of value added services in telecommunications, companies in other industries started the development of such services as well. The reason for interest in them was studied on pharmaceutics manufacturing market and it was found out that their implementation helps to build customer loyalty [Szeinbach et al., 1997]. Differences in politics, economics and history led to some differences in the development of value added services among different countries. Dowling, Witte (1991) analysed and compared the

value added services market development, and the regulatory systems on the market in two different parts of the world: the USA and Europe. It was found out that despite different regulations in the sphere of VAS development and provision, finally markets of both countries turned to free competition. Moreover, after majority of players on the market implements value added services, they transform from a competitive advantage to a must-have competition instrument [Dowling, Witte, 1991]. Thus, only first-comers will be able to benefit from VAS implementation, others will be forced to implement them in order to stay competitive.

The importance of value added services is proved by survey of Amdocs company[1] in 2012. It conducted a survey among 120 communication executives aimed at discovering their thoughts on the value added services trends in Asia-Pacific market. The survey showed that the majority of the respondents consider value added services to be the key ones for companies. More than 60% of interviewed communication executives replied that such services are essential or very essential for their organisation. Over 70% of respondents from Australia and India considered value added services to be one of the key success factors for their business. In Thailand and Vietnam this number reached about 50%. There are several reasons underlying behind companies' decisions to attach value added services to their core products. Basing on several interviews, it was found out that offering value added services is thought to have a positive impact on the perceived value of the core product [van Riel et al., 2001]. The second reason of adding value added services to the core product is to deal with low or decreasing revenues from the latter [Ahn et al., 2011; Goyal, 2004]. Another important aspect is that consumers have come to expect high core product quality and to take this high quality largely for granted [Gwinner et al., 2000]. To deal with this issue, an implementation of value added services could be used, as they have a positive impact on perceived value of the product [Gwinner et al., 2000; van Riel et al., 2001]. According to several researches physical products don't provide companies with competitive advantage, financial performance or market opportunities anymore [Oliva, Kallenberg, 2003; Gebauer et al., 2005]. Nowadays products tend to lose their uniqueness and respectively value very fast; as a result, it becomes more and more difficult to fight commoditisation.

[1] Amdocs - market leader in customer experience software solutions and services.

1.2.2. Strategies of providing Value Added Services

As many companies started to implement value added services, different strategies of VAS providing were developed. In this study, Matthyssens and Vandenbempt (2010) typology of service addition is adopted to housing estate market. Authors conducted the analysis of existing theoretical concepts and interviews with the manufacturing experts to identify four types of service addition strategies. The classification considers two dimensions for each service addition strategy type:

1. The level of embeddedness of the service into the core product. There are two contrary options: build-in services that are an integral part of the product and the additional services that are perceived by the customer as a separate from the core product part but still increasing its value [Oliva, Kallenberg, 2003];

2. The level of product customisation, which has two different options either standard or customised product.

These two dimensions compose a four-service addition strategies matrix: after sales service, service partner, value partner and solution partner. This typology of strategies is presented on Figure 3.

Figure 3. A typology of service strategies
Source: Matthyssens, Vandenbempt, 2010

The majority of manufacturers enter the market with the lower left quadrant strategy and use "after sales service" strategy, which is characterised by offering standardised product with build-in services. Related to housing estate market, "after sales service" strategy refers to general product-related services such as meter readings submission. There are two ways of changing the strategy and moving to another position of the matrix. Firstly, companies can become a "service partner" by changing the level of embeddedness of the service into the core product. The connection between product and services is decreased, separate services, not directly related to core product are offered. This shift is supported by the idea of decreasing physical products' value [Gebauer et al., 2005]. Secondly, companies can become "solution partners" by increasing the level of product customisation and making their offering more complex. In housing estate market conditions, the customisation of the apartments may take place. Companies with "value partner" strategy have pure integrated solutions characterised by high level of customisation and offering separate services that add value to the core product. Despite the fact, that researchers consider it a separate dimension, it actually is a simple combination of previous two quadrants. Therefore, in this study, trajectories of moving from one type of service addition strategy to another are simplified from original ones presented on Figure 4.
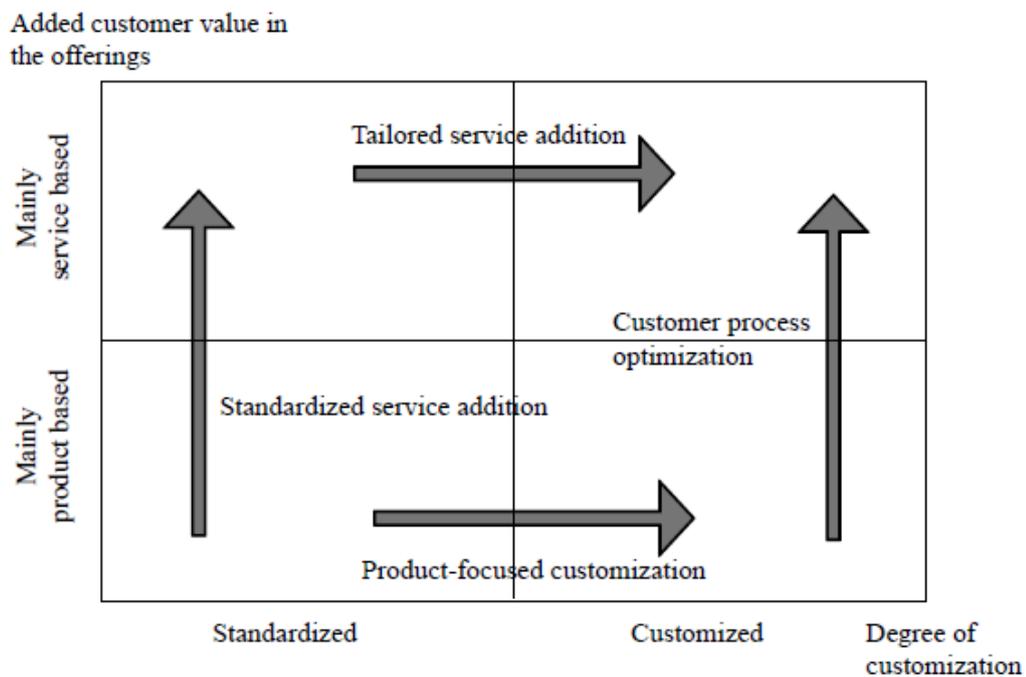

Figure 4. Trajectories of service addition
Source: Matthyssens, Vandenbempt, 2010

As the "value partner" strategy is considered to be a mix of "service partner" and "solution partner", companies can move from the left lower quadrant by changing both dimensions simultaneously or move step by step. Four trajectories described are grouped in two main directions:

1. Addition of services (standardised service addition trajectory). It can be followed by customisation (tailored service addition trajectory);
2. Customisation of the core product (product-focused customisation trajectory). It can be followed by addition of services (customer process optimisation trajectory).

From the Oliva's and Kallenberg's (2003) point of view after strengthening the product-related services and exploiting the installed base service market, there are two main paths for companies to follow either to focus on the customer relations or follow the route of offering process-centred services. Customer relations path is adopted in housing estate market for more than 10 years: companies are shifting from product orientation to customer orientation [Palm, 2011]. This is mostly related to after-purchase services in housing estate market, therefore these services are provided by service company. Product-service strategies in turn are related to services offered by construction company and are usually implemented as a response to specific market needs [Matthyssens, Vandenbempt, 2010].

1.2.3. Value Added Services categorisation

Talking about value added services providing, there are not only different strategies of making such services available, but also different kinds of value added services. Various categorisations should be examined before the development. One of the oldest ones considers dividing value added services into two groups: generalised and narrow [Youngdahl, Loomba, 2000]. Generalised refer to all manufacturing-related services and can be oriented on product or on customer. Narrow value added services are focused only on customers and are often used to increase the level of consumers' satisfaction [Youngdahl, Loomba, 2000]. A study among manufacturers based on the information about willingness-to-pay for value added services issue showed that value added services can be beneficial for manufacturers [Backhaus et al., 2010]. Basing on this research, 3 main groups of value added services in terms of pricing were determined: no-price or free, costs covering (low price, no profit making from service providing) and beneficial. In this study, a special emphasis will

be made on services generating revenues, as they can be a basis for development of revenue models for online platform. Another categorisation approach is based on the business process stage; value added services can be divided into 3 groups: installation, training and maintenance [Ulaga, Reinartz, 2011]. This business-specific categorisation differs among all business fields, but still there is an overall explanation for these VAS groups. Installation services imply services that have a direct connection with the supplier's core product, so the value acquires from the common definition of service that is perceived as a promise to perform something on behalf of the consumer. The most common example of installation service is warranty this service implies the producer's liability to repair or replace defective good within a specific time period that is contractually agreed-on before the purchase. Training services is teaching customers to use goods in order to make them able to perform troubleshooting and simple maintenance tasks themselves. For example, ERP-systems producers always teach their customers how to use the systems; as a result users understand how the system works and become able to fix small problems without the help of the ERP-system producer. In such case both the client and seller saves time and money as the latter hasn't wait for the help with minor problems and the former doesn't have to deal with such. The last type of VAS maintenance refers to services rendered during the period of good usage, for example the company provides customers with the hotline, so they can call and ask any question about the good utilizing.

Stoetzer (1991) believes that technological factors have a great impact on the further development of the value added services market. Emerging technologies are helping to create new value added services. Talking about technological effect on value added services, there are several different definitions of e-service, but most frequently e-service is considered to be a service that is provided to the customers over electronic networks [Rust, Kannan, 2003]. According to Baida, Gordijn and Omelayenko (2004) in business literature e-service is usually understood as an internet-based "copy" of the traditional service. Overall, there are five key areas of difference between e-services and general ones that are covered by existing researches: the costs structure, the degree of outsourcing, the speed of development, the availability of transparent feedback and the continuous improvement [Riedl, Leimeister, Krcmar, 2011].

1. The costs structure of services

According to Evans and Wurster (2000), the cost of electronic services provision is marginal as they can be easily scaled [Menor et al., 2002]. However, at the same time the cost of development and application of e-services is fixed and rather high, unlike general services, which are usually labour intensive on all stages [Whinston, Choi, Stahl, 1997; Bakos, 1998]. This means that because of high initial investments needed, companies may stay aside of the development of internet-based services. Nevertheless, their nature brings more benefits after the development stage in comparison with general services [Menor et al., 2002].

2. The degree of outsourcing

There is no need to locate services near the consumers as they can be easily delivered from remote locations [Miles, 2005]. Moreover, technical frameworks used to create all kinds of e-services are highly standardised, it allows to outsource components from different providers and then easily integrate them [Champion, Ferris, Newcomer, Orchard, 2002; Beisiegel et al., 2005]. Mentioned advantages of e-services create opportunities for outsourcing of these services. However, it may result in complex value networks, which can be very hard to manage because of a number of different actors working together [Vanhaverbeke, Cloodt, 2006].

3. The speed of development of new services

Electronic services can be easily replicated; therefore, the only way to stay successful in competition is constant innovations approach [Porter, 2001; Hipp, Grupp, 2005; Evans, Wurster, 2000]. Except the high level of launching costs, other enetry barriers on e-services market are very low because of high degree of service scalability, global availability of information and high level of remote accessibility to services, which leads to a great need of rapid advances in e-services to gain success [Menor at al., 2002]. In addition, impetuous technological development increases customers' expectations and needs; to meet them companies get involved in continuous innovations.

4. The availability of transparent service feedback

As services assume interaction between service and its consumer, the transparency of such interactions is determined by the electronic nature of the service. All steps of such connections in electronic services can be monitored, gathered, recorded and then used to analyse and predict consumers' needs [Riedl, Böhmann, Rosemann, Krcmar, 2008].

5. The continuous improvement of services

Morris (2006) and O'Reilly (2007) consider that electronic services no longer require much time to be fixed and changed, they can reside in perpetual beta phase (continuous improvement). For instance, there are many online applications that are continuously updated. Also e-services don't have any local differences anymore as updated versions are delivered globally and instantly for all users.

There are also many different typologies of service innovations created by different authors. One of the most common and frequently used classifications is one created by Edvardsson and Olsson (1996) and supported then by Essen and Conrick (2008). They suggested three main areas that influence service innovation in a way that it becomes more complex and multidimensional: service concept, service process and service system. The authors consider service concept to be a "prototype for service, covering needs of the customer and the design of service" [Essen, Conrick, 2008]. Other researchers believe that service concept refers to a detailed description of consumer needs and the way the company is going to provide the service; it specifies the domain of clients' needs and the service offer to meet this domain [Goldstein et al., 2002]. Service process is about the way of how the service is designed and produced; it is a chain(s) of parallel and sequential activities which are conducted to produce the service. Service system refers to resources used in the service process for service concept creation: company's staff, physical and technical environment [Edvardsson, Olsson, 1996].

Coming to the question of new VAS development, the first approach was proposed by Johnson and Menor (1997). The researchers proposed a basic model of new services development, which is presented in a form of a process cycle. Johnson's and Menor's model includes four process phases: design, analysis, development, and launch. Later this model was improved by adding 13 detailed tasks on different phases of process cycle and 3 internal key-success factors: organisational environment, people (teams) and instruments. The

renewed model is presented on Figure 5; it underlines complexity and nonlinearity of the new service development with the help of an ongoing cycle.
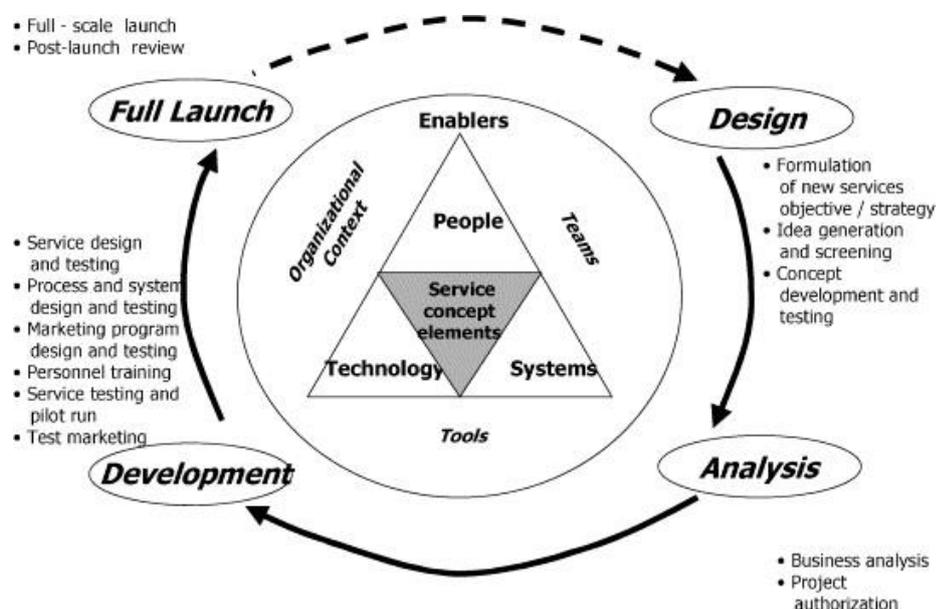
Figure 5. New service development process cycle
Source: Johnson et al., 2000

Despite the fact that internet-based services differ from general ones, this model has no contradictions to nature of e-services, especially reversed cost structure, so it is considered as suitable for development of new e-services.

1.2.4. Value Added Services in different industries

In this part, different studies will be examined to find best practices in other industries. Basing on that, industry experts will be interviewed on the topic of transferability of these services to housing estate business.

Pott and Holtz (2013) state the need of value added services in health micro insurance and describes the main of them. Overall, the article combines already existing value added services and suggests some new to be implemented by insurance companies. In addition, authors examine the popularity of services among clients and the costs of implementation. The popularity of VAS was observed in the study. However, researchers used not an absolute scale, but a comparative to each other; therefore, it is not relevant to housing estate field. The costs analysis was also conducted in comparative way and does not contain exact figures, therefore it is not representative. That is why these parts of the article will not be

considered in this research. Totally, researchers mentioned 10 value added services in health micro insurance: health education, health camp, health check-ups, in-person consultation, remote consultation (dial-a-doctor, technology enabled diagnostics), low-cost medicines, low-cost clinics, low-cost diagnostics and emergency medical assistance. Health education service refers to the education of clients for disease prevention and health promotion, for instance, customers are educated in fields of hygiene and nutrition. Health camps are the most common of preventative value added services in this field. During health check-ups clients are checked for health risks or illnesses like hypertension, for example. In-person consultation is an appointment with medical professional, who examines the patient in real-time and gives him recommendations. This service usually is limited in number of visits to control costs and focused at out of pocket expenditures reduction and facilitating access to primary medical care. Dial-a-Doctor is a type of remote consultation that means contacting healthcare professional presented by a nurse or a doctor by a telephone call. This service is usually considered to be low-cost and convenient way for patients to get preliminary diagnosis or medical recommendation. Dial-a-Doctor service often leads to personal consultation. Another type of remote consultation is technology enabled diagnostics. This value added service implies sending basic diagnostic information like pulse, blood pressure or electrocardiography results to the doctor by electronic means. The aim of this service is providing patient with diagnosis and recommendations about the treatment remotely with the help of medical assistant and modern technologies. Additionally, companies in this business field provide customers with quality medical care and diagnostics at a discount. This value added service is focused at out of pocket expenditures reduction and facilitating access to primary medical care. Next service is emergency medical assistance. This service utilizes satellite navigation system (GPS) and dispatching centre for incoming calls for providing quick access to medical care in case of emergent situation. Emergency medical assistance service offers ambulance transportation to appropriate healthcare institution for patients with serious diseases or injures. This research suggests that half of healthcare micro insurance industry value added services could be transferred to housing estate business. Mostly they refer to general consultations, but three of them are different: health education can be realised in form of seminars (webinars in terms of online service) and low-cost supplies can be also provided through website. More detailed these services will be described and shaped during the interview with industry experts.

Another case is related to intelligence transportation systems. Martinez-Torres et al. (2010) conducted an analysis of a broad number of VAS used in the industry to relate them to the bigger groups. The analysis showed that there are three main regions of services: region 1 is safety and security, region 2 relates to information services and region 3 is about transportation systems management, which is related to the communication with the authorities. During the interview, housing estate services will be viewed from the same perspective as well.

Wittenbach (1995) describes value added services for foodservice industry. Additionally, value added services in steel, packaging, transportation and material-handling industries are covered in his research. Value added services provided by metal distributors have included processes and options. Processes include blanking, cutting to length, sawing, shearing, and slitting. All these mean shaping a product to the customer. On the internet platform, this can be a customizable design for the users. Options provided by metal distributors as value added services include bar coding and identification marking, skid-packing, interleaving, exterior bundle protection, electronic data exchange, facsimile processing, client assistance about issues connected to products themselves, or alternative grades and materials. Referring to housing estate, the final product is the apartment. Therefore, its customisation seems possible only for shared construction. However, this issue will be discussed deeper during interviews with industry experts.

End-users in the packaging field have related value added services to graphic capabilities of the distributor and the availability for environmental assistance. Distributors are responding to the environmental needs of end users providing services that assist with reducing sources, recyclability and recycled content, and alternative recycling techniques. These services may be partly realised through social networking functions, such as news or group decision-making. The latter way needs to be reviewed during interviews.

In the transportation carrier industry, there are many questions posed with regard to value added services and what should be considered as minimum standards for carrier performance. According to Carlos Fallas, vice-president of sales for Con-Way Transportation Services, the only value added services are those perceived by the end-user [Wittenbach, 1995]. Transportation carriers can add value by decreasing costs or increasing sales and by product enhancement. The traditional value added services in the transportation

industry have included: "kitting", product rework, and repackaging. According to [Bradley, 1993], carriers add value in hidden ways, which have included: expansion of market penetration, assisting in avoiding capital costs, inventory costs, cycle time and administrative costs reduction and offering just-in-time delivery. In an interview with [Bradley, 1993], Bill Elston, president and chief executive of the Unit Cos, stated that hidden value added services are not genuinely value added in nature but are "value enhancers". In the same interview, Bob Baker, CEO of Skyway Freight Systems, stated value is added for the end-users in two ways: an effective information system and assistance with inventory management. The information system offered to the end-users has included preparing bills of lading, conducting audits, and paying freight bills. In regard to inventory management, Skyway Freight Systems has offered assistance in monitoring the flow of products from the distributor to the end-user [Wittenbach, 1995].

In the material-handling industry, value added services have included providing assistance in doing routine maintenance and simple repairs promptly either in-house or at the dealership. Extensive training programs in the areas of new equipment, state-of-the-art electronics, and safety are value added services considered beneficial by both the end-user and the final customer (customer to the end-user) [Avery, 1993]. Talking about housing estate, this can relate to group already mentioned group decision-making process about repairs etc.

Finally, value added services offered in foodservice industry include: product cutting, product specialist, food show, nutritional analysis, custom computerisation and software, operational consulting, menu and recipe writing, sanitation certification and registered dietitian [Wittenbach, 1995]. Some of these value added services are very similar to services in other industries and can be replicated the same way: for example, product specialist, nutritional analysis, registered dietitian and operational consulting remind different types of consulting; product cutting, menu and recipe writing are similar to customisation services in other industries.

Summarising, all mentioned value added services in different industries will be further discussed with industry experts to analyse the possibility of transferring these services to housing estate business.

Chapter 2. Methodology

In this study, research questions will be analysed from multiple perspectives to increase the validity of the results. This approach is called triangulation and brings certain benefits such as "increasing confidence in research data, creating innovative ways of understanding a phenomenon, revealing unique findings, challenging or integrating theories, and providing a clearer understanding of the problem" [Thurmond, 2001]. Mentioned benefits are mostly supported by diversity and quantity of analysed data. Guion, Diehl, McDonald (2001) identified five methods of data triangulation, two of them will be used in this study. Data triangulation means the use of different data sources. In this study, data triangulation will be used during the interview analysis by comparing view points of different people. Methodological triangulation refers to the use of multiple qualitative and/or quantitative methods. In this study, to answer the first research question (Is it relevant to develop private online platforms for value added services provision in housing estate business in Russia?) results from the survey and interviews will be compared. If similarity of the findings will be observed, we can draw a conclusion about the validity of the results.

Talking about methodology, this research is a case study of Russian housing estate market. It utilises both survey and interview methods to reach broad, generalizable results of analysis as well as depth understanding within a single investigation. An interview of industry experts is used to understand the commercial actors' perspective and investigate the professional outlook at current market state and co-existence of private platforms with governmental portal in order to answer the first research sub-question (Is it relevant to develop private online platforms for value added services provision in housing estate business in Russia?). The format of the interview will be a deep unstructured interview, as it best helps to explore a topic in depth [Kothari, 2004]. In addition, basing on the analysis of secondary data, experts will be asked about the transferability of value added services from other industries to housing estate market in order to answer the second research sub-question (What are the internet-based value added services that can be provided in housing estate business in Russia?). To avoid the lack of generalizability a survey method is used as a part of triangulation [J. Zivkovic]. A convenience sampling technique is used to select information-rich group of people that will best enable to answer the research questions. As it can be seen from Table 2, relative weaknesses of the pure qualitative case study are compensated by strengths of the survey method and vice versa.

Table 2. Relative strengths of case study and survey methods

	Case Study	Survey
Controllability	Low	Medium
Deductability	Low	Medium
Repeatability	Low	Medium
Generalisability	Low	High
Discoverability (explorability)	High	Medium
Representability (potential model complexity)	High	Medium

Source: Gable, 1994

Summarising, using interviews together with survey helps to get in-depth results, which are at the same time statistically relevant and generalizable, which is not possible using a single-strategy study. This increases validity and utility of the findings. [Guion, Diehl, McDonald, 2001]

In this study, seven experts from different regions of Russia were interviewed. As YIT company has experience of online platform implementation on foreign markets and starting the development for Russian market, the majority of the interviewees are heads of YIT Russian regional departments. Additionally, an executive director of "Severstroy" construction company that is not involved in online platform development was interviewed to get another perspective on this issue in order to avoid misleading. Respondents were interviewed in person, by telephone and internet (with the use of skype); their names, interview dates and tools, companies and regions of operation are presented in the Table 3.

Table 3. Interview timetable

Name	Company	Region	Interview tool	First interview date	Second interview date
Alla Vinnik	YIT	Saint-Petersburg	Face-to-Face	03/06/2015 09:30-10:30	13/06/2015 11:00-11:30
Vadim Morozov	YIT	Moscow	Skype	03/06/2015 11:00-12:00	13/06/2015 10:00-10:30
Andrey Chernoivanov	YIT	Rostov region	Skype	05/06/2015 09:30-10:30	13/06/2015 10:30-11:00

Dmitriy Zaharov	YIT	Moscow region	Skype	05/06/2015 11:00-12:00	13/06/2015 13:00-13:30
German Malyshev	YIT	Republic of Tatarstan	Skype	08/06/2015 10:00-11:00	14/06/2015 10:30-11:00
Oleg Shapovalov	YIT	Sverdlovsk region, Tyumen region	Telephone	08/06/2015 15:00-15:30	14/06/2015 11:00-11:30
Igor Petrov	Severstroy	Republic of Komi	Skype	10/06/2015 11:00-12:00	14/06/2015 12:30-13:00

The format of first interview was an unstructured interview divided into two main parts. The first was mostly focused on the discussion of State Information System development and how it affected the market. The list of guiding questions for the first part is presented below:

1. Do you have previous experience of housing estate online platforms use? If yes, what do you feel about it? Was the functional clear for you?
2. Do you know about any online platforms developed by your competitors? If yes, what services do they provide through it?
3. Do you know about State Information System? How is development going in your region? Have you already reported to it?
4. How do you think, will this platform have a success on Russian market? Why?
5. How do you think, can/should private platforms compete with State Information System?
6. What are the key factors for development of private platforms?

The second part was devoted to the discussion of value added services transferability from other industries. The guideline questions for the second part are presented below:

1. Companies in the healthcare industries provide healthcare education for its clients. Do you see any opportunities for some kind of education in housing estate business? How do you think, can it be realised through internet platform?

2. Additionally, many various consultations are provided in healthcare industry. What are the possible ways for online consultations in your business? Are your customers interested in it?

3. Is there an opportunity to provide your buyers with low-cost supplies (for example for apartments finishing)? Will they be interested in this?

4. Companies in the intelligence transportation systems industry make a strong emphasis on making their customers feel safe and secure. Are there any opportunities to make your customers feel safe through some services provided on online platform?

5. Metal distributors provide a wide range of opportunities to customise final product. Can some customisation be done in housing estate? Is there a way to connect it with online platform?

6. In transportation carriers industry, one of the important services for customers is ability to check the current state information. What do you think a replication of this service in housing estate business can be?

7. One of services that can be provided through online platform is group decision-making (for example about some repairs or cleaning issues). Are there any barriers in implementation of this feature?

8. Do you have any additional suggestions of services that can be provided through housing estate online platform?

Second interviews with experts were conducted to collect their opinion about the services replication ways suggested by others during second part of first interview. A service is considered viable in case if majority of experts agrees that it implementation is relevant.

Talking about interview analysis, it generally refers to qualitative data analysis. The use of computer packages is recommended only in case of collection of lots of interview data (more than 40 interviews) [Adams et al., 2007]. As the data collected during interviews in this study is not large in volumes, it will be managed by traditional means. One of the methods that will be used is "quote-research". This technique means the use of quotes from interview as illustrative or confirming examples [Folkestad, 2008]. Particularly, it will be used for presenting current market state as well as to form a list of services that can be transferred to housing estate business. Second method that will be used is cross-case analysis as a part of comparative research tool. This technique enhances generalisability of the results [Miles,

Huberman, 1994]; therefore, it will be used for identifying whether State Information System creates threats or opportunities for development of private platforms. Additionally, this tool will be used to compare experts' opinion on different transferable services suggested by others.

To identify customers' perspective, whether people are interested in private online platforms or not as well as develop value added services for such platforms, the survey was conducted. A convenience sampling technique was used to select information-rich group of people. It means that the population was divided into discrete groups prior to sampling. The criteria for selection were geographical area and experience/understanding of online platforms in housing estate market. As YIT company already started development of value added services and implemented a simple online function (meter readings submission) for some of housing estates in Saint-Petersburg, inhabitants of these housing estates were chosen for the survey.

The survey consists of 1 open-ended question and 14 multiple-choice questions (7 with binary outcomes and 7 with categorical outcomes). This study suggests organising online platforms in form of housing social network, therefore respondents were asked to identify their interest in particular features from the pre-determined list of social networking functions. Additionally, they were asked on their intentions to use features similar to those provided by State Information System. Finally, respondents were given an opportunity to give some feedback about the platform or suggest services they would like to see. A survey form with the list of questions is presented in the Appendix 1. The survey was conducted online through the YIT website in mentioned housing estate. All inhabitants were invited to participate in survey by three ways: in a news section on a website, by e-mail and by paper-based posters on the entrances. Overall, 128 responses were collected in the time period from 15th of June, 2015 to 30th of July, 2015. A final sample included respondents of various ages and income levels, the distribution of respondents by age (Figure 6) and income (Figure 7) is presented below.
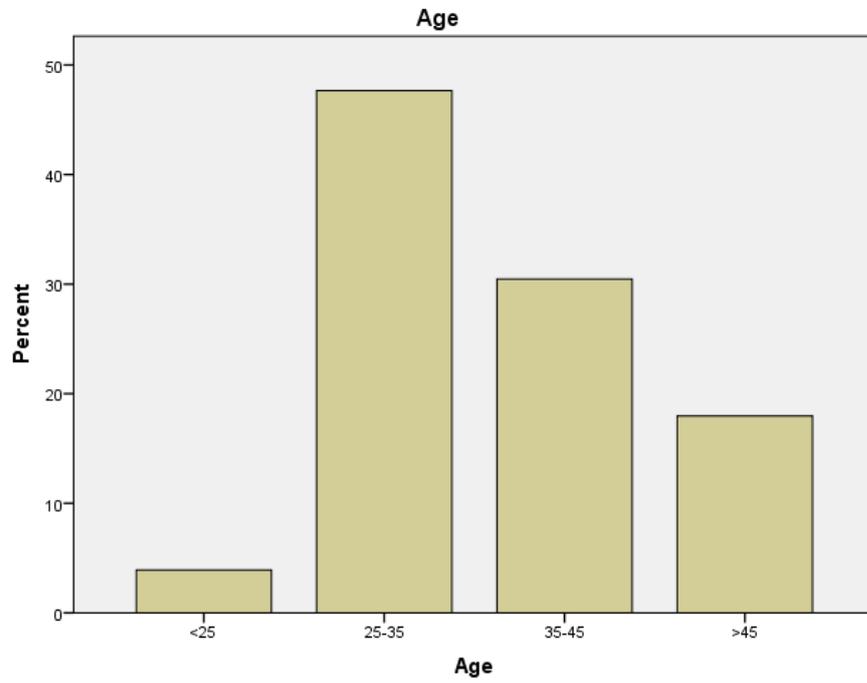
*Figure 6. Respondents' distribution by age*
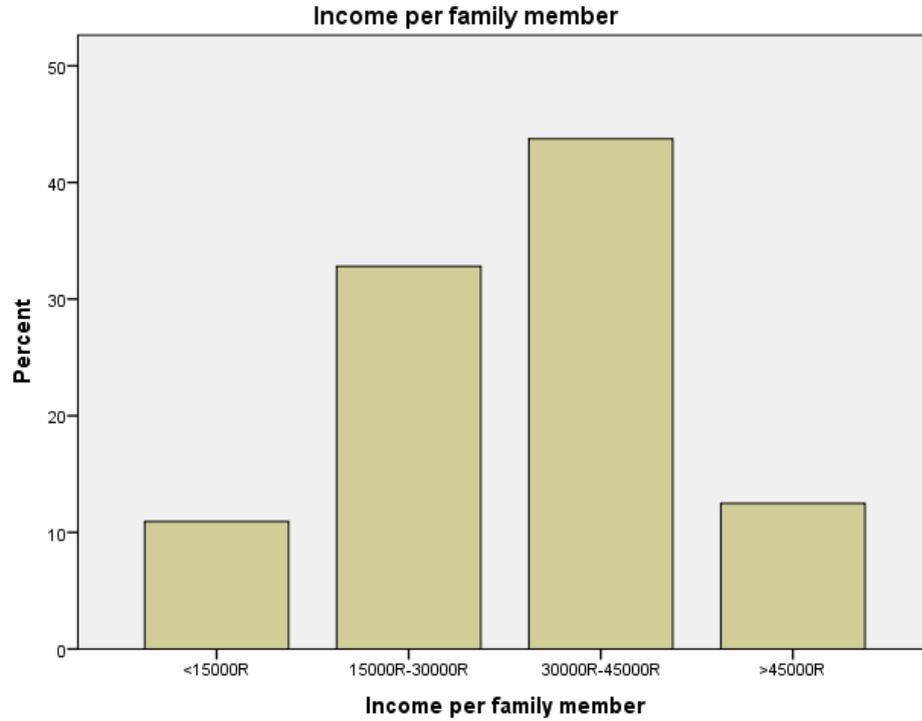
Figure 7. Respondents' distribution by income per family member

For the analysis of survey data, different statistical approaches to quantitative data analysis will be used. First, for the binary data, a factor analysis will be conducted to investigate pattern of correlations within a set of social networking functions. Despite the fact that principal components analysis (PCA) is the default method of extraction in many popular statistical software packages, it is considered to be insufficient by many scientists and suitable only as data reduction method [Costello, Osborne, 2005]. As the Principal Axis Factoring is using the conceptual approach (i.e., trying to understand the shared variance in a set of X measurements through a small set of latent variables called factors), it is more commonly reported in social and behavioural science research reports. For that reason, this method of factor analysis was chosen in this study. As for the rotation technique, a varimax rotation will be selected. As in varimax each factor will have a small number of large loadings and a large number of zero (or small) loadings, after the rotation, each original variable will be associated with one or few factors [Lewis-Beck et al., 2003]. Therefore, this selection eases the interpretation of results. Assessing the practical significance and communalities of variables, different researchers have different opinions on this topic. As common magnitudes in the social sciences are low to moderate communalities of .40 to .70 [Costello, Osborne, 2005], this study refers to Stevens (1992) suggestion of using a cut-off of 0.4, irrespective of sample size, for interpretative purposes.

Additionally, for multiple-choice responses, descriptive statistics will be used. Particularly, emphasis will be made on cross tabulations, as they present the results of the entire group of respondents as well as results from sub-groups of survey respondents. Cross tabulations enable to examine relationships between two or more variables. However, to ensure that correlation is not only visual, chi-square tests will be conducted for significance assessment. In this study, the confidence interval is considered to be 95% (alpha=0.05).

Chapter 3. Findings

3.1. State Information System description

To find out if the development of online platform providing value added services make sense on Russian housing estate market, the content analysis of State Information System was conducted. A great shift in the industry occurred last years because of governmental intervention. The idea of governmental internet-platform in housing estate service industry firstly appeared about 4 years ago. The plans were to launch it over the whole country until 2013, however the website was created only in 2014, and now, in 2016, it is still in beta-test. State information system "Gosuslugi" aims to provide a high-quality service for Russian citizens through offering nine core functions, five of them are still in development. There are two main groups of the functions: those that can be used only by authorised users and those that can be used without registration. Before describing the functions it worth noting the registration process, which is quite complicated. Firstly, a person needs to register his account, fill in several forms with information about different documents. Secondly, the platform checks the information; this process can last from several minutes to several days. Only after inputted information is confirmed the person has to confirm his identity. There are three ways of confirmation: order a postal letter (it comes approximately after two weeks), visit a postal office or use E-key. The last way is used very rarely because not so many people in Russia have such key, so only first two ways remain for the majority. When the process of registration is clear, the functions of State information system can be described. There are nine functions: online payment for the communal services, find on map, check service company license, send an application, send meter readings, learn about subsidies and privileges, check the arrears, learn about major home repairs and learn about the activities and domestic services.

1. Online payment for the communal services

To pay for the communal services online after the registration the user needs to add a special billing account for every bill issuer. After all information is verified, the user can start paying the communal services through the platform. At present there are only two service providers of water and other supplies, it means that despite the availability of the function not all users can use it. However, electricity and gas payments are available for all users.

2. Find on map

This function gives user an opportunity to search on map and view general information about housing estate, service companies, resource suppliers, and local governments.

3. Send meter readings

To use this function the user needs to do the same actions as in function 1 – online payment for the communal services. Then the user can input meter readings online. It should be noted that this page of the portal doesn't work in some browsers, Google Chrome, for instance; moreover, it crashes the work of the browser and the user needs to reload it through task manager.

4. Learn about subsidies and privileges

In this section, the user can find out information about the possibility of providing subsidies and privileges to pay for housing and communal services. This part of the portal can be used without authorisation by filling in a special form.

Despite the fact, that 60% of the functions are not available for users now, people are starting to use this platform. This platform may have a significant effect on the market. Basically, this project is exactly what companies in housing estate have started to create: an internet platform that provides additional services from news to bills payment. As this project is free-to-use and offers kind of the same but on governmental level, it should be very interesting for people. On the other hand, because of complicated registration procedure and long development time, people may start using substitutes before the platform will become fully functional.

3.2. Interview

Basing on the analysis of the first part of the interview, experts' opinion on the topic of State Information System development was collected. One of the experts (Saint-Petersburg region) believes that as the platform is governmental and united it will have a great success: "State Information System is obligatory for companies, therefore they will not have enough resources to support private platforms as well. Moreover, as it is governmental project, it will be similar for all people will all required functions. I'm not sure that people need something else" [A. Vinnik, face-to-face interview, 03/06/2015]. Others at the same time

treat the same points as a problem. "A great amount of information makes platform complicated. This is definitely negative point from the final user perspective" [O. Shapovalov, telephone interview, 08/06/2015]. Moreover, "a big internet platform cannot provide its users with immediate responses from support" [A. Chernoivanov, skype interview, 05/06/2015]. Experts highlight that users do not like to wait long time to solve their problems; therefore, it provides an opportunity for existence of companies' online platforms and can be one of the strongest competitive advantages. Additionally, one of the experts faced similar situation in his region (Moscow): "There was a case of similar governmental project and it had no success – people simply refused to use it" [V. Morozov, skype interview, 03/06/2015]. Overall, the majority is not sure about the future of the State Information System, especially taking into consideration the fact that the creation started several years ago and is still in progress.

Talking about the development of private online platforms, experts highlight there are some difficulties, which slow down the process of the development. First, implementation of governmental portal obliged companies to report necessary data on it. Therefore, some experts (Moscow) stay resistant to development of private online platforms as it means replication of all procedures related to it. "I will have company website, state information system, second governmental project "reforma zhkh" and online portal: all about the same. State Information System is very poorly organised, it requires lots of information. But I will be responsible for all 4 resources" [V. Morozov, skype interview, 03/06/2015]. Another point is that housing estate market in Russia is divided into two main segments. The first one is construction industry – this part of the market relates to all construction companies that are selling housing estate to customers. The second one is a service industry – this segment relates to the post-purchase house maintenance. "Our business ends right after the construction. We do not provide house maintenance like many other construction companies; third-party service company is responsible for it" [I. Petrov, skype interview, 10/06/2015]. Therefore, if we divide value added services on the ones that are provided before the purchase is conducted (pre-purchase) and the ones that are provided after the purchase (post-purchase), the latter ones are realised not by the particular housing estate seller, but by the service companies. Talking about online platforms, even some of pre-purchase value added services, provided by construction company, may be presented on the internet platform of service company.
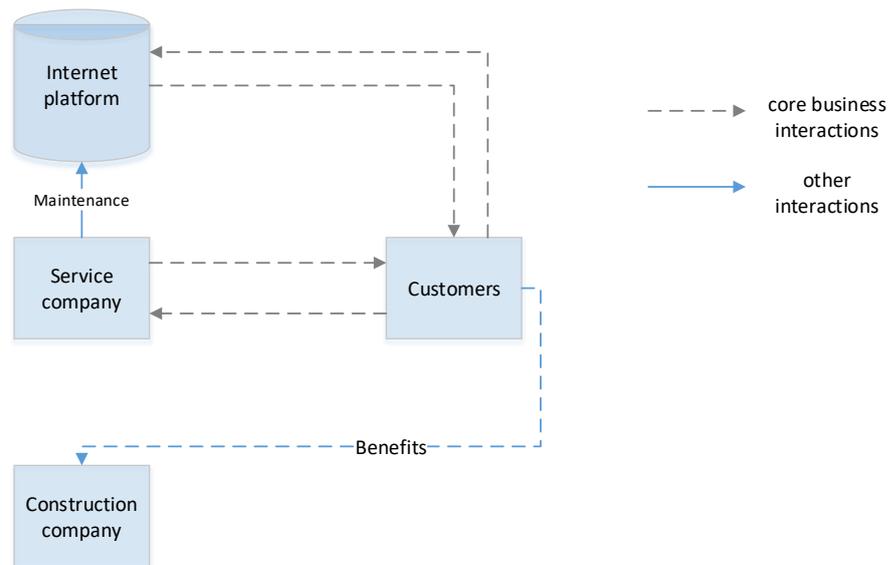
Figure 8. IBVAS realisation in housing estate business in Russia

Service companies operate their main business through direct communication with customers; and implementation of internet platform may facilitate and enhance this interaction (Figure 8). Therefore, investing in development and maintenance of such platforms may sound reasonable for them. However, there are few benefits in providing superior service. "According to Russian law, in case the construction company is not providing housing maintenance, a service company is being selected by inhabitants or during an open tender. As in new housing estates only few inhabitants are presented at the end of construction, in most cases service company is being selected by open tender. Therefore, the main focus of service companies is to fit tender requirements rather than provide superior service at higher price" [I. Petrov, skype interview, 10/06/2015]. This results in fact, that the only parties, who are interested in value added services, are customers (to receive better service) and construction company (to increase customers' loyalty and sales). In case, if service company is a part of construction company, there's in-house cooperation and control. "It is an often case in our region, when construction company takes the responsibility for further housing maintenance" [G. Malyshev, skype interview, 08/06/2015]. However, if the service company is independent from construction company, how the latter can be sure that the former will spend enough money and efforts on internet platform maintenance, while getting almost no benefits from it? Therefore, the majority of experts agreed that if an online platform will be generating revenue flows to cover its costs, the development makes sense.

"I think about such online platform in a positive way, especially if it will be able to generate some revenues" [O. Shapovalov, 08/06/2015]. "In case if this platform can bring revenue and payback, construction companies will be ready to invest money in that" [I. Petrov, skype interview, 10/06/2015]. "I don't see the point in platform development. In my opinion it will never payback" [A. Vinnik, face-to-face interview, 03/06/2015]. Basing on the analysis of different online earnings models provided in previous parts, an online platform will be considered as an independent business model; therefore, the ways of how this platform can finance itself will be suggested in managerial implications chapter.

Second part of the interview was devoted to investigation of value added services replication from other industries. Overall, the following industries were examined in this study: healthcare micro insurance, intelligence transportation systems, foodservice, metal distribution, packaging, material-handling and transportation. Talking about healthcare industry three key value added services were identified: healthcare education, consultations and access to low-cost supplies. As for the education, there are different opinions. Some experts believe, that "there are not much things to educate people in this business" [D. Zaharov, skype interview, 05/06/2015]. Other experts at the same time supported the idea of customers' education. "We can explain them the process and answer main questions about purchasing the housing estate from our company" [A. Chernoivanov, skype interview, 05/06/2015]. "It is important to explain to customers all the specifics of housing estate selection to help them make right decision. This will be beneficial for both sides" [O. Shapovalov, telephone interview, 08/06/2015]. "Educating online is not only possible and convenient nowadays; it also provides a great opportunity to attract people from different regions" [I Petrov, skype interview, 10/06/2015]. There are many opportunities to replicate consulting services through online platform as well: "Online consultation can be realised in many different ways. It may vary from simple "FAQ" page on the website or call-back button up to fully integrated online chat with professional consultant" [G. Malyshev, skype interview, 08/06/2015]. As for low-cost supplies, there are certain limitations on implementation of this service. "Definitely customers will be interested in purchasing some materials with the discount, especially the ones who are purchasing apartments for finishing. However, as one of the leading construction companies, we have some requirements to the size of corporate partners and quality of their products. I won't say that this option is not viable, but it needs to be assessed individually by every company" [A. Vinnik, face-to-face

interview, 03/06/2015]. Referring to intelligence transportation systems industry and services aimed at increasing customers' safety, experts suggested various ways of realisation. "People feel safe after buying a housing estate if nothing goes wrong. However, sometimes they face problems and may not be aware of how to fix them. A useful online service would be an ability to make an appointment of plumber or locksmith on website. Imagine a timetable, where a user can choose appropriate date and time of visit" [V. Morozov, skype interview, 03/06/2015]. "We are placing video cameras for security reasons in many housing estates. They include video intercom, elevator cameras and outdoor cameras. I think that we can provide people with the access to online translation from these cameras in personal account. I think especially people with cars would appreciate this function, when they can ensure that everything is ok anytime anywhere" [I. Petrov, skype interview, 10/06/2015]. Referring to customisation issue inspired by metal distributors experts suggest the following service. "The trend of customisation appears in many different industries, housing estate is not an exception. Some construction companies provide people with opportunity to customise finishing of the apartments or even the layout during the construction phase. As for online features, I think an application can be developed, where a customer can view different options – the one like IKEA has" [A. Vinnik, face-to-face interview, 03/06/2015]. "I think a good idea is to let people customise the interface of online platform to meet their needs" [O. Shapovalov, telephone interview, 08/06/2015]. Transportation industry service for transfer is customers' ability to check the current status of delivery. "We can post news on online platform to keep customers informed" [A. Chernoivanov, skype interview, 05/06/2016]. "For customers purchasing housing estate in shared construction, we can post news of the status of construction processing. Additionally, some photos of construction may be available for them" [V. Morozov, skype interview, 03/06/2015]. Talking about group decision-making, "if inhabitants' identities are verified in online platform, there are no barriers in use of this service" [G. Malyshev, skype interview, 08/06/2015]. "Online voting is a good opportunity, as generally people are not willing to participate in all residents meetings. Here, in Saint-Petersburg, we tested similar function: inhabitants were voting for or against the installation of special trash cans for batteries. We managed to get relatively high rate of involvement, I think it is good result" [A. Vinnik, face-to-face interview, 03/06/2015]. During second interviews experts were asked to express their opinion of how viable would be service in housing estate market. A list of all suggested services with their description and summary of experts' opinion on their relevance is

presented in the Table 4. Overall, all services were found relevant, however two services were under big consideration as they require complicated agreements and procedures to be conducted: low-cost supplies and layout changes.

Table 4. Analysis of VAS transferability to housing estate

Value added service	Description of VAS in housing estate	Experts' opinion
Housing estate acquisition webinar	Users can register for the webinar. Before the beginning, they will receive the notification with the link to the webinar. All users can view the video in real time and ask questions in chat.	5 voted "for" 2 voted "against"
Remote consultation (online chat)	Online chat is organised for consultations with sales department of construction company.	5 voted "for" 2 voted "against"
"Call-back" feature	"Call back" feature is available for all users to request a call from the sales department of construction company.	6 voted "for" 1 voted "against"
Access to low-cost supplies	This service can include different ways of providing access to low-cost supplies. It can be advertisement about special offers or fully working online mall for users.	4 voted "for" 3 voted "against"
On-site application for plumber or locksmith	Users can request a visit of plumber or locksmith from their personal account. They can choose appropriate date and time of visit from available.	7 voted "for" 0 voted "against"
Online video from cameras in personal account	Users can view the video from video intercom, elevator cameras and outdoor cameras.	6 voted "for" 1 voted "against"

Customisable design for the users	Users can customize the interface of the online platform. This can include change of buttons places, colours and themes.	7 voted "for" 0 voted "against"
Finishing of apartments for shared construction	Buyers can use the online application to choose finishing from the options available. Additionally, the can view, how this finishing will look like.	5 voted "for" 2 voted "against"
Layout change for shared construction	Buyers can use the online application to choose possible layout changes.	4 voted "for" 3 voted "against"
Construction status online	Buyers, participating in shared construction can view the status of construction processing. Additionally, they can view photos of construction and receive news about it.	5 voted "for" 2 voted "against"

3.3. Customers' survey

Customers' survey is aimed to identify possible directions of platform development as well as services that can be provided through it. This study suggests that online platforms should be organised in the format of social network with certain features and additional functions. The survey helped to define, do the customers want to use a Housing Social Network (HSN) and should it be competing with governmental platform or not. Basing on the answers, only 6% of respondents are not interested in such platform. The amount of people interested in Housing Social Network among people of different age is presented below (Figure 9).
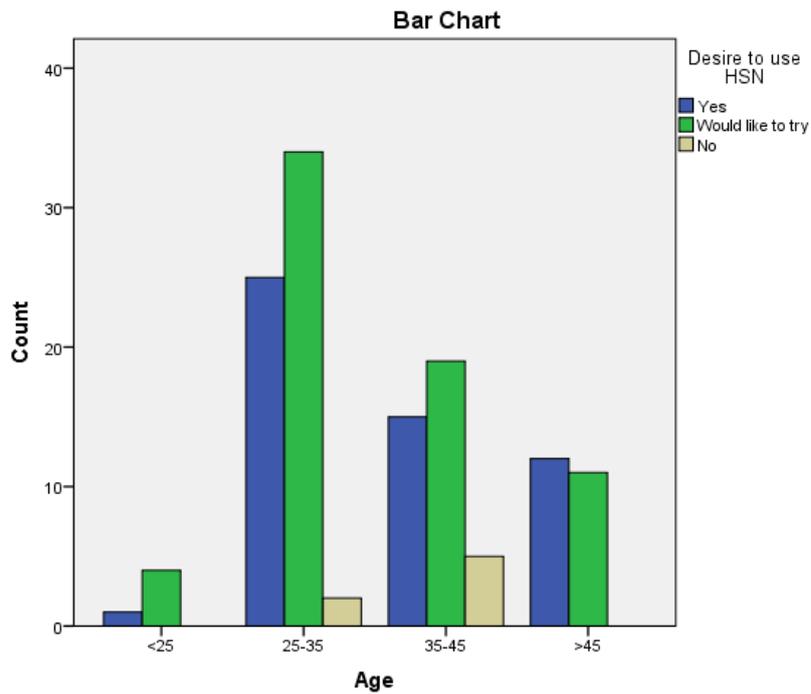
Figure 9. Interest in HSN basing on age

To identify desired social networking functional, the list of functions was developed and respondents were asked to choose what functions they find important. In addition, they could add functions they need if there were no such in the list. The most important functions for respondents are presented on Figure 10; popular functions are presented on horizontal axis and the percentage of respondents who chose the particular function on vertical axis.
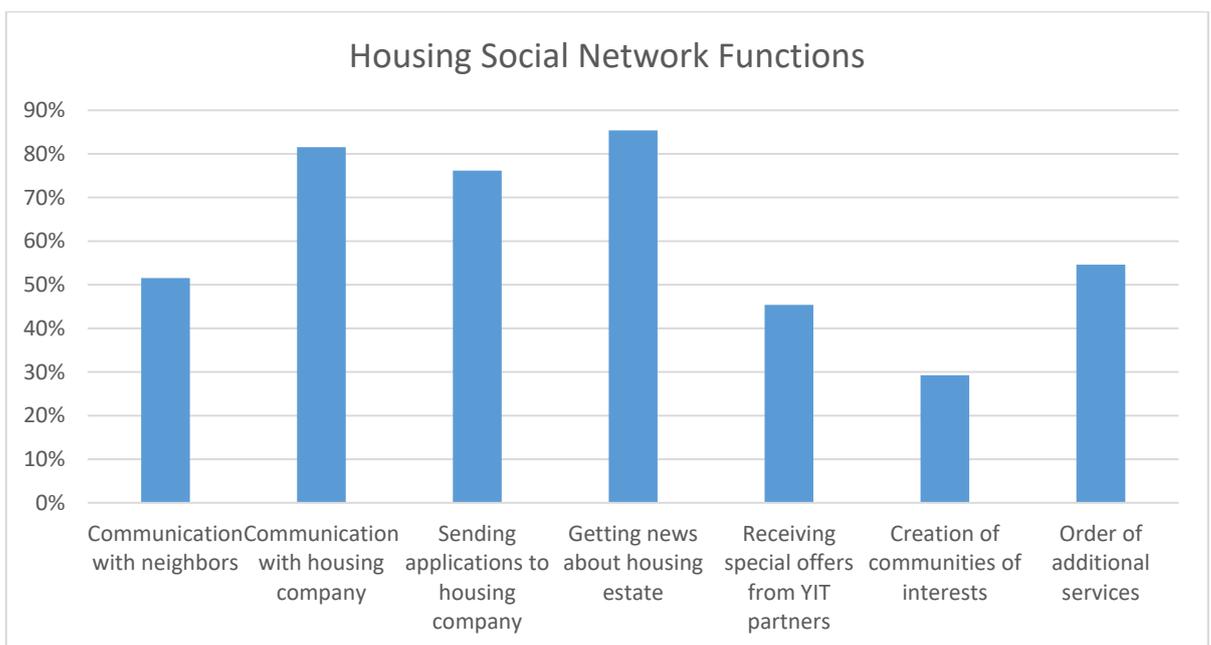
Figure 10. Housing Social Network Functions

To investigate the pattern of correlations within a set of social networking functions a factor analysis was conducted. After the first iteration, one of the functions (receiving special offers) was found not related to any of the factors. As such offers are supposed to be provided by third-party companies and are not generated directly by service company or by other users, it is reasonable that it was left. A second iteration of factor analysis was conducted after the exclusion of receiving special offers function. According to rotated factor matrix (Table 5), there are two factors identified for social networking functions suggested for the platform. The first factor refers to company-related services such as receiving news, communicating with service company, sending applications and ordering additional services. The second factor refers to fully social features such as communication with other users (neighbours in this case) and creation of communities of interest. Referring to factor loadings among variables, all services met the cut-off threshold of 0.4 described in methodology part. Therefore, we can make a conclusion that results of this factor analysis are reliable.

Table 5. Rotated Factor Matrix for factor analysis of social networking functions

Rotated Factor Matrix[a]

	Factor	
	1	2
News feed	.408	.097
Communications with neighbours	.134	.672
Communications with housing company	.520	.270
Sending applications to housing company	.873	-.104
Creation of communities of interest	.048	.498
Order of additional services	.553	.125

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.

Due to the more detailed analysis of people's interest to different functions, it was found out that the percentage of people interested in receiving special offers increases with the age and has no correlation with the income level (Figure 11). The correlation proved to be significant by chi-square tests, as the p-value is less than 0.05 (Table 6).

Table 6. Significance of correlation between age and interest in special offers

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.787[a]	3	.005
Likelihood Ratio	14.799	3	.002
Linear-by-Linear Association	12.073	1	.001
N of Valid Cases	128		
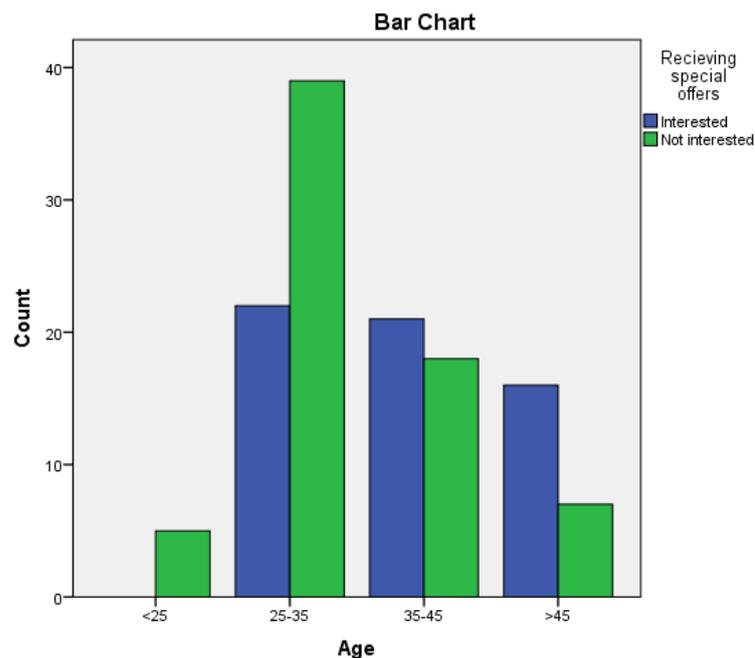
Figure 11. Interest in special offers according to age

However, the situation is contrary with the interest in order of additional services: it grows with income level and has no correlation with the age (Figure 12). The correlation proved to be significant by chi-square tests, as the p-value is less than 0.05 (Table 7). This needs to be taken into consideration by companies implementing such services on their online platform. Depending on the price segment of housing estates companies can make emphasis on different services.
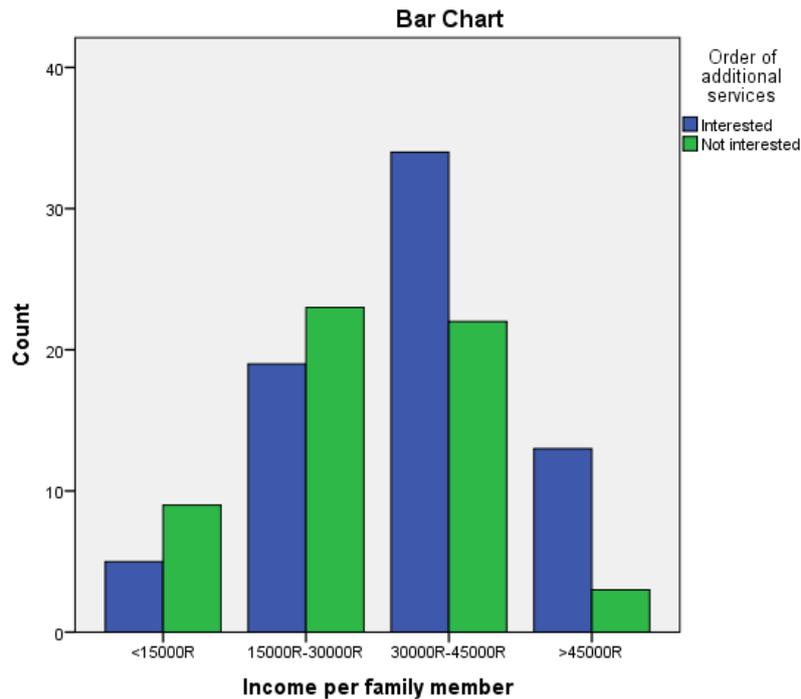
Figure 12. Interest in additional services according to income

Table 7. Significance of correlation between income and interest in additional services

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.921[a]	3	.030
Likelihood Ratio	9.336	3	.025
Linear-by-Linear Association	8.573	1	.003
N of Valid Cases	128		

However, the interest in Housing Social Network does not necessarily mean that customers would prefer private platform to governmental one. To investigate this issue deeply and identify possible ways of co-existence with State Information System, additional analyses were conducted. The one way of platform development is to supplement governmental project, another is to compete with it, offering the same functions and adding new ones. To define, should the platform compete or supplement the governmental one, respondents were asked about the key functions of State Information System – meter readings submission and

communal payment. There were two types of questions. First type was supposed to identify, how people are reporting meter readings and paying for communal services now; if there is a popularity in use of online services or not. Second type of questions was designed to find out if there is a need in providing such services through the online platform. The majority (almost 90%) of respondents report meter reading online, most of them (66%) use YIT website for that. Talking about communal services payments more than a half of respondents (62%) are already paying online and more than 80% of respondents would like to have an ability pay through online platform. Basing on these, we can make a conclusion that people are ready to use internet for such activity and would like to have such functions on Housing Social Network. However, this does not mean that they will prefer it to governmental platform; therefore, a deeper analysis was conducted. It was found out that people who want to pay for communal services through online platform are also willing to report meter readings the same way (Figure 13). This correlation was found significant by chi-square tests, as the p-value is less than 0.05 (Table 8).
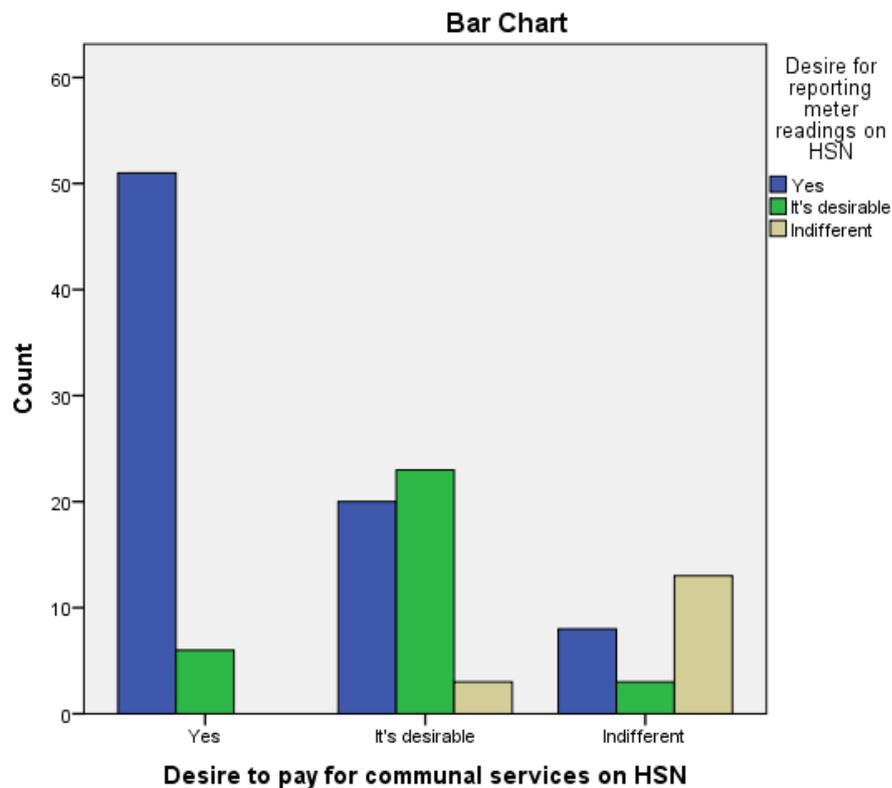

Figure 13. Desire to pay for communal services

in comparison with meter readings reporting

Table 8. Significance test of desires correlation

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	71.705[a]	4	.000
Likelihood Ratio	63.584	4	.000
Linear-by-Linear Association	46.091	1	.000
N of Valid Cases	127		

The fact is that there was no correlation identified between ways people pay for communal services and report meter readings. Moreover, even the correlation between how people report meter readings (and pay for communal services) now their desire to do it through online platform was found insignificant. At the same time, the existence of strong relationship between desires to use online platform for meter readings submission and communal services payments means that people would like use one website consolidating various features instead of many specialised platforms. This supports the idea of competition with State Information System through provision of many functions.

The final list of value added services developed due to survey with their description is presented in the Table 9.

Table 9. Value added services created with the help of survey

Value added service	Description
Social network services	
Communication with neighbours	Communication with other users is an integral part of any social network. As the main users of the platform are inhabitants – communication with neighbours is essential function. Users can send personal messages to other users of the platform or create group chats.

Communication with housing company	Users can send messages and receive replies from housing company in their personal account.
Sending applications to housing company	Users can send applications to housing company through the platform. Additionally, they can check the status of application processing.
Getting news about housing estate	The news feed contains important news related to the housing estate. Additionally, users can see news from communities they participate in.
Creation of communities of interests	Users can create communities of interests. Posts of such communities will be shown in the news feed.
Group decision making (voting)	Users can participate in decision making through voting. Housing company places the voting in the network, available for users for certain period of time. The results of voting are available for all voted users.
State Information System replication (Compulsory functions)	
Online payment for the communal services	Users can pay for the communal services from their personal accounts.
Send meter readings	Users can report meter readings from their personal accounts. Additionally, they receive notification during the period if they haven't reported readings yet.
Check the arrears	Users can check their history of payments. Additionally, they receive notifications if they have arrears.
Send applications	This have been already described in social net functions
Learn about future repairs	This should be presented in the news section, that have been already described in social net functions

Chapter 4. Discussion

4.1 Theoretical contribution

This study fills the gap in the topic of value added services in housing estate market that can be provided online. This research suggests the list of 19 different value added services that can be provided through the housing company's online portal. These services are divided into three main groups: social networking services, compulsory services (replicating functional of State Information System) and additional services (replicated from other industries). This division can be considered as classification of value added services provided through online platforms in housing estate market (Appendix 2).

Talking about social networking functions, basing on factor analysis two major groups of services were identified: company related and fully social services. Company related group includes such services as ordering additional services and communication with service company. Fully social services group includes such services as communication with neighbours and creation of communities of interest.

Another contribution of this study is the conclusion that people are interested in consolidation of different online services on one website. This outcome was found significant due to chi-square tests basing on the analysis of cross tabulations of respondents' desire to pay for communal services and report meter readings through online platforms.

Business models developed in this research contribute to online business models theory. Besides the justification of advertisement model use in housing estate industry, this study also suggests two newly developed business models particularly for this industry (refer to managerial implications chapter for the detailed description).

4.2 Managerial implications

This study suggests that the format of private online platforms in housing estate business should be a social network with additional features. However, despite the implementation of social network format, companies should spend enough resources on support and communication with inhabitants. This recommendation is supported by the results of interviews with experts: they highlight that high quality of support and fast response rate can help to attract inhabitants from State Information System to private platforms. Moreover,

simple and user-friendly registration procedure can be very strong competitive advantages for commercial online platforms in housing estate business.

This study suggests a double-registration procedure mechanism. Firstly, inhabitant can register an account on the website by himself. Starting from the point of initial registration the user gains an access to some features of the platform, which do not require identification, for example, user can receive news from the service company. To get full access to the online platform the user must prove his identity. To do that, he has to visit a service company, provide them with required documents and sign necessary legal instruments. After that, the user moves to the category "verified inhabitant" and gets an ability to manage his spending, for example check bills statistics or arrears existence. Also verified users can take part in discussions and housing estate decisions on different issues like installing waste containersplanting trees and so on. Additional category "verified buyer" should be implemented for customers, who are participating in shared construction of housing estate. Such users can get access to additional functions like finishing or layout change. Double registration procedure should be taken by companies into consideration while developing online platform, as it will help to attract people to the online platform use even before they become inhabitants. If people start using the platform before the purchase, they would like to continue using it after they start living in housing estate.

As users are interested in consolidation of different online services on one platform, private online platforms should include all governmental functions. However, such functions as find on map, check service company license and learn about subsidies and privileges, can be excluded as they relate to pure governmental information support. Overall, in this research a list of 19 value added services was developed (Appendix 2). Referring to the previous analysis of value added services development, the implementation of value added services brings benefits only to pioneers in this field: after some time all companies in the market will have to develop them to stay competitive. Russian housing estate market is just starting to develop value added services, therefore using this study as a guideline for development of value added services can help companies to save time and money on the research and focus on the implementation. However, on the other hand this means that during time some of the developed services will become obsolete. Therefore, the value of pure implementation of mentioned services will be decreasing over time. Nevertheless, services developed in this study still can be used as a benchmark for creation of new services.

Business models suggested for online platforms in housing estates are based both on secondary data analysis (promotional and vending models) and on developed value added services (construction model).

The first model to consider is Promotional model (Figure 14). The primary source of revenue is advertising. Despite the fact, that many researchers argue the utility of advertisement-based models, a housing estate industry is significantly different from general online businesses. The core difference is the ability to provide a very high level of advertisement targeting. Firstly, it is possible because every user is assigned to particular housing estate. As geographical location is defined, many local advertisers will be interested in advertisement placement among particular users (for example laundry operating nearby). Secondly, a social networking element of the platform (communities of interest) will help to add interests as another targeting filter. As the advertisement price is highly correlated with the ability of a company to sustain high conversion rate, precise targeting of online platforms in housing estate business will make this earnings model very profitable. As a service company is getting revenues from advertisers for providing access to inhabitants, main actors are service company, advertisers and inhabitants. This model will mostly fit companies with big amount of users on the platform with high attendance, because this increases advertisement price. A double-registration procedure helps a lot in raising an attendance rate, as even non-inhabitants can be users of online platform. A good analysis of customers' needs is also very important. For example, companies, selling apartments for finishing can mostly benefit from it though placing advertisement of hardware stores.
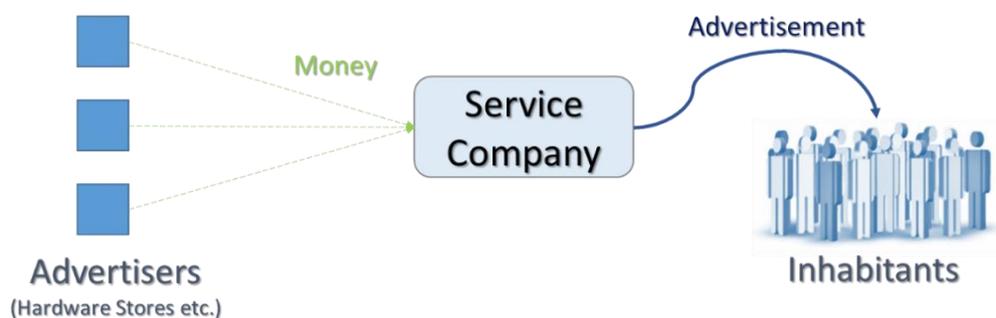

Figure 14. The mechanism of promotional business model

The second business model is Construction model (Figure 15). The primary source of revenue is based on selling of additional construction services. In case, when service company and construction company are different business units (or even organisations), a service company is receiving commission fee from construction company for providing it with clients. There are three main actors: construction company, service company and customers. A user selects a particular service (finishing or layout change) and a variant of customisation through online platform interface. It is especially important to ensure that the selection procedure is simple and well visualised. It should be noted, that this business model fits only to construction companies selling apartments in shared construction. Therefore, such model suits most to companies with reliable brand and high quality of construction.
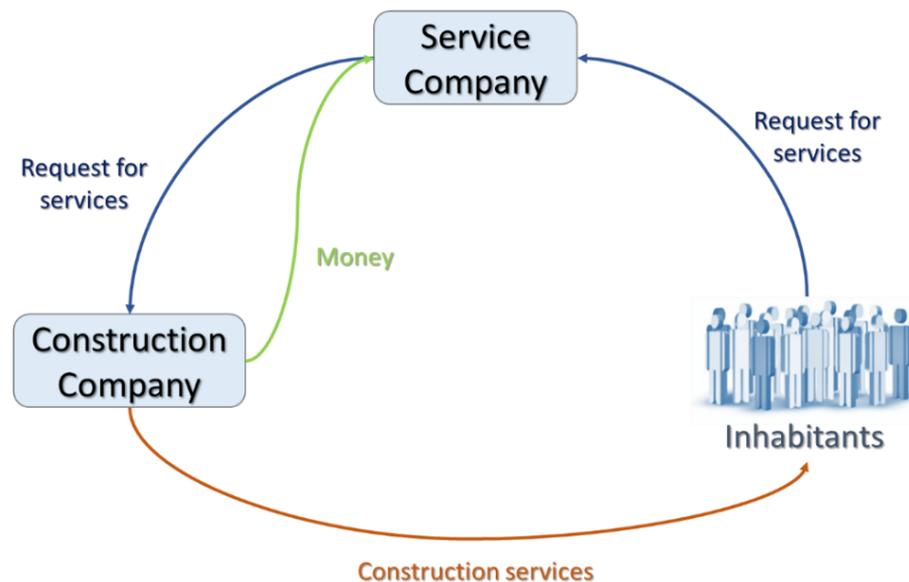
Figure 15. The mechanism of construction business model

The third business model suggested by this study is Vending model (Figure 16). This model is similar to transaction model for selling things; however, it has a bit different mechanism. Main actors are service company, its vendors and inhabitants. Users can get access to discounts on purchasing of some goods or services. Service company finds vendors, who are ready to provide discounts on deals at wholesale. Then, service company posts the deal on the website. The description of the deal contains the price, terms of purchase, time period and amount of users needed to get discount. Amount of users left is always updating. If a user wants to purchase a good, he pays for it to the service company account. If the required

amount of purchases is met before the end of period, service company conducts a purchase and then users receive their goods. If the required amount of purchases is not met, service company returns money back to the users. This way of organizing deals is possible only if users trust service company. Service company can receive a revenue in different ways. One variant is a commission fee from the goods/services sold through the platform. Other way is taking a one-time payment for the deal placement on the website. This will mostly fit to small partners, when a service company can't be sure that users would like offered product. A third way is to collect a monthly payment for access to deals placement. This way can be offered after some time of successful business model utilisation for partners, intending to offer several deals per month.
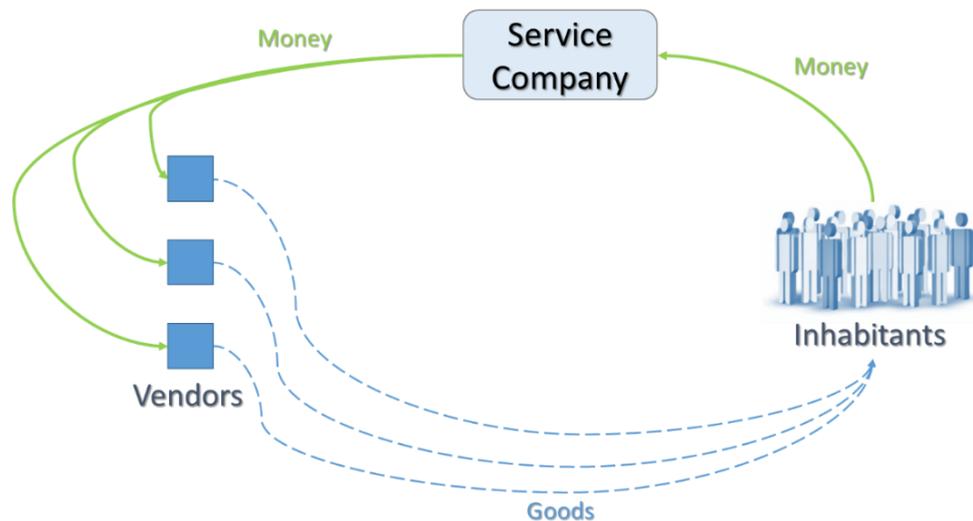
Figure 16. The mechanism of vending business model

4.3   Limitations and future research

There are two main points that limit the utilisation of the results of this research: sample for customer survey and geographical location.

In this study sample for customer survey was created by convenience sampling technique, and included only inhabitants of YIT housing estates. Such sample was used in the survey because these people were familiar with online platforms as such system was already implemented in their housing estates. In terms of this research, respondents' knowledge of the platform was significant for reaching the research goals of creating value added services

for housing estate industry, as these people are aware of online portal, have better understanding of its potential and can provide more information. However, used sample is not representative regarding the issue of new users' adoption of online platform.

The second limitation of this study is geographical location. All the respondents of the customer survey are citizens of Saint-Petersburg, so the results are relevant only for big cities. Therefore consumers' interest in utilisation of online portal might be different in smaller cities of Russia. Additionally, differences in the life-style of people from big and small cities can lead to lower interest in some value added services provided through online platform in the latter.

Several directions for further researches follow from the limitations of this study. Future studies can observe the issue of new users' adoption by enlarging the customer survey sample and including respondents from different housing estates who might be absolutely unfamiliar with online platforms. Customers from smaller (compared to Saint-Petersburg) cities of Russia can be surveyed in order to identify their interests in value added services and to compare the outcomes with the results of this research. This will help to generalize conclusions for the whole Russian market of housing estate.

Also the list of value added services developed for online platforms in housing estate industry can be used as a base for further researches regarding new value added services development for other industries. Additionally, as value added services are getting obsolete after a big number of companies implement them, the results of this research can be used as a background for further development of new services in housing estate business.

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Appendix 1. Survey form

1. What is your age?

    - less than 25

    - 25-35

    - 35-45

    - more than 45

2. What is your income level per family member?

    - less than 15,000 rub/month

    - 15,000-30,000 rub/month

    - 30,000-45,000 rub/month

    - more than 45,000 rub/month

3. How do you report meter readings?

    - Paper-based

    - YIT website

    - Other on-line services

4. How do you pay for communal services?

    - With cash in bank or ATM

    - By credit card in ATM or terminal

    - From bank account

    - Online services (by credit card)

Housing Social Network is an online portal where you can chat with your neighbours, discuss interesting topics in special communities, receive actual news, contact the service company and get access to other interesting features.

5. Would you like to use Housing Social Network?

    - Yes

    - Would like to try

    - No

6. Do you want to report meter readings through HSN?

    - Yes

    - It's desirable

    - No

7. Do you want to pay for communal services on HSN?

- Yes

- It's desirable

- No

The next section is aimed to identify the preferable functions of Housing Social Network.

8. Is communication with neighbours important for you on HSN?

- Yes

- No

9. Would you like to participate in creation of communities of interest on HSN?

- Yes

- No

10. Are you interested in communication with housing company on HSN?

- Yes

- No

11. Would you like to send applications to housing company and check their status through HSN?

- Yes

- No

12. Are you interested in receiving actual news about housing estate on HSN?

- Yes

- No

13. Would you like to receive special offers from company partners on HSN?

- Yes

- No

14. Are you interested in order of additional services through HSN?

- Yes

- No

15. What else would you like to see on Housing Social Network?

Appendix 2. Final list of value added services

Value added service	Description
Social network services	
Communication with neighbours	Communication with other users is an integral part of any social network. As the main users of the platform are inhabitants – communication with neighbours is essential function. Users can send personal messages to other users of the platform or create group chats.
Communication with housing company	Users can send messages and receive replies from housing company in their personal account.
Sending applications to housing company	Users can send applications to housing company through the platform. Additionally, they can check the status of application processing.
Getting news about housing estate	The news feed contains important news related to the housing estate. Additionally, users can see news from communities they participate in.
Creation of communities of interests	Users can create communities of interests. Posts of such communities will be shown in the news feed.
Group decision making (voting)	Users can participate in decision making through voting. Housing company places the voting in the network, available for users for certain period of time. The results of voting are available for all voted users.
State Information System replication (Compulsory functions)	
Online payment for the communal services	Users can pay for the communal services from their personal accounts.

Send meter readings	Users can report meter readings from their personal accounts. Additionally, they receive notification during the period if they haven't reported readings yet.
Check the arrears	Users can check their history of payments. Additionally, they receive notifications if they have arrears.
Send applications	This have been already described in social net functions
Learn about future repairs	This should be presented in the news section, that have been already described in social net functions
Additional services	
Housing estate acquisition webinar	Users can register for the webinar. Before the beginning, they will receive the notification with the link to the webinar. All users can view the video in real time and ask questions in chat.
Remote consultation (online chat)	Online chat is organised for consultations with sales department of construction company.
"Call-back" feature	"Call back" feature is available for all users to request a call from the sales department of construction company.
Access to low-cost supplies	This service can include different ways of providing access to low-cost supplies. It can be advertisement about special offers or fully working online mall for users.

On-site application for plumber or locksmith	Users can request a visit of plumber or locksmith from their personal account. They can choose appropriate date and time of visit from available.
Online video from cameras in personal account	Users can view the video from video intercom, elevator cameras and outdoor cameras.
Customisable design for the users	Users can customize the interface of the online platform. This can include change of buttons places, colours and themes.
Finishing of apartments for shared construction	Buyers can use the online application to choose finishing from the options available. Additionally, the can view, how this finishing will look like.
Layout change for shared construction	Buyers can use the online application to choose possible layout changes.
Construction status online	Buyers, participating in shared construction can view the status of construction processing. Additionally, they can view photos of construction and receive news about it.