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CLUSTER INITIATIVES AS MEANS TO IMPROVE THE EFFECTIVENESS OF REVITALISATION OF THE OLD TOWN URBAN UNITS

This article aims to indicate the possibility of implementation of innovative cluster initiatives in the process of revitalisation of the old town urban units. The article attempts to gather the most important aspects of a model cluster project aimed at the revitalisation of historic urban area. Reality of revitalisation and its effectiveness, as well as the use of the social, economic and cultural potential of historic urban units were illustrated by the example of revitalisation of Old Town in Lublin. It is proposed to change the approach towards the problems that the revitalisation of the old town units causes and emphasise the cluster initiatives which can accelerate the process of revitalisation and improve its effectiveness. In addition, the possibility of deviation from the plan which utilises the funds received from the municipality and the EU „aid" funds as entire funding sources was proposed.

Keywords: clustering, innovations, revitalization program, Old Town in Lublin.

JEL Classification Codes: C38, R58.

Introduction

The starting point in consideration of the importance of cluster in revitalisation of old town urban units is the identification of the term „revitalisation". It is commonly believed that revitalisation is identical to renovation of historic monuments in its definition. However, these two terms cannot be treated as synonymous.

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In the Guide published by Ministry of Labour and Social Policy concerning the criteria for planning and administering the projects which involve revitalisation (Ministerstwo Gospodarki i Pracy, 2004), it was concluded that there was no standard definition of revitalisation, but the fundamental aim of revitalisation was the restoration of past facilities in an area that had been degraded socially, economically or environmentally; or the replacement of its past facilities to new ones. This general explanation also cannot be treated as a definition of revitalisation. In the quoted document, a definition proposed by K. Skalski (2004) was cited, according to whom revitalisation pertains to a holistic scheme of multiple renovations and redevelopment of public space and revaluation of historic monuments in a designated area, which is most often historic as well, together with economic and social development of this area. This demonstrates that revitalisation is a combination of technical actions, such as renovation, and programmes of economic revivification and actions aimed at managing social issues, which occur in these areas.

On the other hand, according to A. Billert (2004), revitalisation relates to a holistic process of renovation of a designated urban area, whose space and facilities experienced structural degradation, which either completely disenabled or substantially impeded the economic and social development of that area. What is particularly relevant in this definition is the affirmative that revitalisation is a reaction to a crisis situation, manifesting itself not only in degradation of the monuments, but also – and especially – in degradation of the whole area. Hence, revitalisation entails actions that are reconstructive in terms of architectural and urban sphere, social, economic, ecological and spatial in nature. In other place A. Billert acknowledges that revitalisation incorporates complex actions, which are coordinated and administered by the public sector (municipality), while the entirety of actions is based on active cooperation of organs and political and administrative institutions, together with social entities.

It is worthwhile to compare aforementioned definitions with the definition by W. Kłosowski (2004), according to whom revitalisation implies revivification of socio-economic processes in the area, where these processes withered away. As for this definition, it is vital that the areas in need of revitalisation are chosen not because of their historic value, but pre-eminently because of particular accumulation of socio-economic problems. In historical European cities it is very often that such areas are the oldest districts within the cities. Nonetheless, it is not their historic nature that predestine them to revitalisation, but precisely accumulation of social and economic problems in one place. According to this author, revitalisation has to engage all the locals, that is the municipal council and local authorities, the entrepreneurs and non-governmental organisations, but also the residents themselves.

According to art. 2 par. 1 of the Act of 9th October 2015 on revitalization (Journal of Laws 2015 item 1777, „Revitalisation is a process of leading the degraded areas out of crisis, which is conducted in a comprehensive manner through integrated activities in favour of the local community, area and economy, that are territorially-focused and

conducted by the stakeholders of revitalisation on the basis of municipal programme of revitalisation".

The stakeholders of revitalisation are, in accordance with art. 2 par. 2 of the referred act, in particular:

- residents of revitalization area and owners, users and real estate owners located in this area, including housing cooperatives, housing communities and social housing associations,
- dwellers of a given commune from outside of the area of revitalization,
- entities running or intending to run a business in the commune,
- entities running or intending to conduct social activities in the area, including non-governmental organizations and informal groups,
- the territorial self-government units and their organizational units,
- public authorities,
- other entities implementing the State Treasury's rights in the area of revitalization.

The aims of revitalisation are situated within the socio-economic and eco-spatial spheres, while infrastructural, architectural and urban ones are subordinated to these aims. Thus, revitalisation is not an activity that includes only renovation and construction, whose social, economic or eco-spatial aim has not been identified. Revitalisation has to be executed in cooperation with associates of various backgrounds, i.e. public sectors (usually municipal), non-governmental sectors, local entrepreneurs, e.g. local universities, etc.

Revitalization is therefore always a plan of multifaceted, mutually reinforcing (synergistic) actions aimed at provoking a qualitative change throughout the designated area, leading to a change of a negative image of this area. According to the next author (Bucka, 2007), the aim of revitalisation of degraded urban areas is their socio-economic recovery, including the development of their touristic potential.

The main goal of revitalization is therefore the economic and social recovery, as well as the augmentation of touristic and cultural potential of the area, together with the provision of new socio-economic facilities. The specific goal of revitalization is, among other things, creation of favorable conditions for development of new forms of economic activity, which in turn would generate workplaces, by offering infrastructure in revitalized facilities suitable for business establishment. A qualitative change of local conditions and radical improvement of the image of the area, which are the results of revitalization, create an opportunity for development of individual residents to such an extent that the mechanism of intergenerational transmission of social disadvantages can be interrupted. The „permanently problematic" area has the potential to become an area that is both developmental and self-sufficient in terms of addressing its own problems.

Taking into account the above premises, possibility of implementing innovative cluster initiatives in the process of revitalisation of old town urban units, was acknowledged as the main goal of the present article. The conducted research allowed verification of the

thesis that the implementation of innovative cluster initiatives in the process of revitalisation of old town urban units does indeed enhance the effectiveness of their revitalisation.

Revitalisation of the Old Town in Lublin

Old Town in Lublin is unique architectural complex in which the oldest objects date back to XIII century. It retains its original layout, which is an exception in this part of Europe.

Old Town in Lublin and its surroundings survived the war in good condition. After the war, the buildings in the area constituted a reservoir of residential apartments. In the 1960s, the communist authorities „communalized" these housing resources, settling them with the poor inhabitants. In the 1970s, some renovation works were undertaken, directed mainly at the public facilities. Financial assets were insufficient for reconstruction of the entire complex and its surroundings. The problem of the Old Town was deteriorating over the years, while no new flats were found for tenants from the devastated townhouses. Inability to move them to new dwellings prohibited reconstruction of the Old Town as a whole. Up to now, solutions to the problems of the Old Town in Lublin consisted of renovation of the chosen objects that was financed almost solely from the assets of the Lublin Municipality or won by the Municipality for this aim.

Revitalisation (actually renovation) was conducted in the Old Town in Lublin in the period 1990–2014 by the Board of Communal Real Estate. The significant effect of this revitalization is serious advancement in modernization of technical infrastructure of this area. However, renovation works concerned on current repairs solely. They basically stop the process of degradation of real estates, but less frequently of entire buildings. In spite of some considerable advancement of the project, more than thirty townhouses belonging to the Municipality and twice as many belonging to the private owners, of joint ownership or of mixed ownership (municipal-private) are still pending for renovation.

Assessment of present state of revitalization of the Old Town in Lublin is not the subject of this study, but only a starting point for discussion of the process with the indication of their benefits and drawbacks. The benefits include the exhaustive maintenance documentation, directionality of revitalisation programme, advancement of work on the arrangement of public spaces (technical infrastructure, roads, greenery), advancement of work on the revaluation of individual objects, development of functions of the commercial space – mainly catering, yet office space, touristic service, guesthouses, bank offices and various cultural functions. The drawbacks include between others „special mode of lease of real estate", both municipal and private, a lack of a communal construction programme devoted exclusively to the liquidation of „special mode of lease of real estate" and insufficient funds for revitalisation. The Old Town in Lublin is inhabited by 2500 people, who live in approximately 900 flats. In the period 1990-2014, 80% of tenants did not pay the rent regularly and this continues up to now. One third of tenants

have part of their rent financed on a regular basis. A similar number of inhabitants of the Old Town are on welfare received from the Municipal Family Support Centre.

In the quoted study (Uchwała Nr 735/XXIX/2017), in the chapter called „Housing Resources Reform Programme" it was proven that „Due to the events that occurred in the past decades, the programme is not top priority, yet is the most difficult to implement. Not only does it require municipal and private investments involving modernisation of flats and improvement in its living conditions, but also adoption of difficult solutions liquidating negative social phenomena observed in the Old Town". At the same time it was demanded to preserve the residential area – „the only departure from the rule is the permission to convert the flats on the ground floor into commercial space or conversion of tenements into businesses involving a constant presence of people, e.g. hotels, guesthouses, youth hostels, etc., which intended to keep the proportion of residential space at an appropriate level. That is, to ensure that the share of residential resources in the overall usable area of the Old Town in Lublin does not fall below 45%". It was also indicated that it was necessary to exclude the majority of residential resources under renovation in the Old Town from the pool of communal flats and evict people „causing social issues".

The surface of all buildings in the Old Town in Lublin is 88 780m^2. More than half of this surface (54%) are flats. The cost of renovation of a historic building in relation to the average construction cost of 1m^2 of a new building was estimated based on 'Sekocenbud' publications. For living area this is PLN1600 while for commercial space it is PLN2000. As the minimum costs of renovation of buildings in the Old Town, an amount equal to 100% of construction costs of new buildings is assumed. The maximum values of these costs have been also determined based on the data of the General Conservator of Historic Buildings (Uchwała Nr 868/XXXIII/2017), assuming the cost of PLN3000/m^2. Taking the average of these outcomes allows a statement that the expenses of revitalisation of buildings will amount to PLN250-285 million.

In 2014, by the resolution of Lublin City Council, the Lublin City Revitalisation Programme for the years 2017-2024 (the Revitalization Program) came into effect, assuming new implementation costs (Table 1). Catalog of stakeholders of the revitalization program was also constructed (Table 2).

The Municipal Program for the Care of Monuments of the city of Lublin for the years 2015-2019 (GPOnZ), adopted by the resolution of the Lublin City Council in 2015, was included in the Revitalization Program. This program indicated the necessity of cooperation between individual entities, i.e. the city self-government and subordinate units (the Office of the Municipal Conservator of Monuments), state monument protection services, owners and users of historic buildings, scientific communities and non-governmental organizations. GPOnZ indicated The Old Town as an area that should undergo revitalisation saying: „The Old Town which requires special operations as a historic unit within the City of Lublin, particularly affected by arrears in the renovation of historical

urban structure and exposed to strong pressure of depopulation and changes in residential areas for commercial purposes". SWOT analysis concerning the possibility of protecting the cultural heritage of the city of Lublin showed that it is necessary to accelerate the process of revitalization of the historic buildings of the Old Town and increase the financing activities in connection with the new prospect of UE funds. Furthermore, it showed that the simultaneous implementation of both programs, i.e. GPOnZ and the Revitalization Program, will create a beneficial effect resulting from coordination activities and convergence of objectives.

Table 1. Estimated costs of the Lublin City Revitalization Program in thous [PLN]

Partial R square	Public				Private	In total
	Municipality's own	UE	National	Repayable*		
The revitalization projects included in the program resulting from the estimated value, the credibility of which allows detailed calculation	219 243	452 069	3 765	22 500	400	697 977
Estimated funds for the implementation of other revitalization projects, whose credibility or uncertainty of implementation makes detailed calculation impossible	35 000	40 000	40 000	45 000	249 600	409 600
In total	254 243	492 069	43 765	67 500	250 000	1 107 577

* definition of repayable assets.

Source: study commissioned by Lublin City Hall 2014.

Table 2. Catalog of stakeholders of the revitalization program

inhabitants of the revitalisation area	inhabitants of the remaining area	municipal office and subordinate units	government administration and subordinate units	provincial government and subordinate units
consultative body of the city president	non-governmental organisation and informal ones	entrepreneurs and their organisations	district councils	other public institutions
charity organisations	educational institutions	universities	cultural institutions	landlords
developers	housing cooperatives	housing communities	churches and religious associations	sports clubs and sport institutions

Source: study commissioned by the Lublin City Hall 2014.

As described above, previous method of solving the problems of the Old Town in Lublin consists in financing renovation, not revitalization. Only buildings belonging to the commune and free from inhabitants were covered by complete overhauls. For now, the Municipal authorities uses a program focused on „urban" purposes, showing what the Old Town could look like after renovation. The current and future functions of particular parts of the Old Town, the main goals and stages of revitalization are described in it exhaustively. However, the possibilities of implementing this program end where the „public space" ends. Municipal authorities focus on renovation of technical infrastructure and few facilities that they own. The current method of financing the revitalization process from the Municipal budget and EU assistance funds is ineffective and does not allow for comprehensive revitalization of the Old Town Complex in Lublin. Establishment of the old town complex revitalization program should be supported by new financial resources. The revitalization programs described above do not indicate additional sources of financing.

The solution may be the introduction of a revitalization program (not renovation one), which would include construction of several hundred apartments that would meet the needs of the Old Town residents over the years, move the tenants out of the Old Town, renovate most of the municipal and private tenement houses and modernize the technical infrastructure. Revitalization should be carried out in its entirety, because partial implementation will not bring the expected final result. Existing financial resources should be used or new instruments should be created to support this project. The result of revitalization of the „devastated" historical areas is to restore them to the proper level of their economic values. Degraded real estate, inhabited by poor people, is of low value. However, following reparation works, real estate that is inhabited by the middle class or used by institutions and small or medium-sized businesses can generate profits. The greater the interest in historic districts from potential customers, tourists and residents, the greater these profits. This is an appropriate task for specialists in renovation of historic buildings and for specialists in economics.

Analysis of the financing sources for revitalisation shows that the money will be available when renovations are in the economic interest of investors (owners) interested in the renovation of their property. The current value of real estate in the Old Town is relatively low in relation to the value of buildings in the nearby city center. Real estate that has been renovated and is operating in „good surroundings" should gain in value. In this situation, banks may be more willing to finance renovation and revitalisation works. The value of real estate depends on their surroundings and function. This is the reason why the Old Town has to regain commercial significance as an attractive district of the city. The primary objective of the restoration works in the Old Town is therefore the „economic" revitalisation, which is not a simple result of renovation. The renovation of individual facilities and technical infrastructure are a means to achieve the goal, not an end in itself.

Rapid revitalisation depends on the construction of several hundred apartments for the purpose of transferring the tenants from all tenement houses that require renovation and creating mechanisms for organizational and financial assistance in renovating the buildings. Dwellings being currently at the disposal of the Municipality allow the transfer of a number of tenants from the Old Town. Another source may be rental apartments built by the Social Housing Association (TBS) and financed by the National Housing Fund.

Financial assets for revitalisation can be obtained from many sources. The largest ones are in banks that are willing to finance repairs, provided that it is economically efficient. Moreover, the General Conservator of Historic Buildings has funds for the restoration of monuments in the form of direct subsidies. The issue of bonds underwritten on renovated buildings may be another source of funding. The budgetary resources are available to local and government authorities, i.e. the President of the City, the Marshal of the Voivodship, the Voivode. These authorities may use subordinate units to act as financial guarantors. There are also opportunities to obtain funds from EU „aid" funds, governments of other countries and international organisations.

Innovative cluster initiatives in the revitalization of old town complexes

„A cluster is geographical concentration of related enterprises, specialized suppliers, service providers, enterprises in related industries and affiliated institutions (e.g. universities) in specific areas that both compete and conduct mutual cooperation" (Porter, 2001) Clusters adopt different legal formulas. They can function as non-governmental organizations (associations or foundations) or limited liability companies.

In the years 2006-2012, there was a cluster called „Cluster of Culture of the Lublin Region - strengthening the socio-economic potential of culture and tourism communities of the Region", co-financed from the European Social Fund under the Integrated Regional Development Operational Program and the state budget, with headquarters located in Lublin. This initiative has been described in the publication „Good practices of implementing regional innovation strategies in Poland", published by the Polish Agency for Entrepreneurship Support (PARP). In 2009 this project was indicated as the only innovative cluster initiative in the Lublin province.

The analyzed cluster was a network of cooperation between cultural and local self-government units, scientific and research institutions as well as non-governmental organisations and entrepreneurs, working for development of the region. The leading entity, i.e. the Lublin Foundation for the Restoration of Historic Monuments (LFOZ) was an entity that revitalized historic buildings in Lublin and the Lublin province. Its activities included renovation of historic buildings, renovation of sanitary, gas, electricity and road infrastructure, as well as social infrastructure (trainings raising qualifications and thus

enabling get a job and exit from poverty). At the same time, LFOZ cooperated in the field of revitalisation with many entities.

In order to check whether the cluster initiatives can have a measurable effect in the process of revitalisation of historic urban complexes, a verification methodology for entities participating in the cluster as well as entrepreneurs operating outside the cluster was developed. Groups were selected using the data collected in several EU projects conducted by LFOZ. The study covered two groups of enterprises - a research group and a control group. The research group consisted of micro and small enterprises (employing 5-50 people) operating in a formalized cluster structure as defined by the Polish Ministry of Economy (Plawgo, 2007). The control group consisted of micro and small enterprises, operating outside the formalized cluster structure. However, they operated in similar activities with activities within the cluster participants, especially in the field of revitalisation. The research and control groups were selected on the basis of similarity in the size, location of the headquarters (the Lublin province) and the main subject of activity while the dependent variable was a membership in the formal cluster structure. The empirical material was collected in 2012-2014 using questionnaires. The survey was distributed via direct contact or via e-mail. The structure of the surveyed enterprises is presented in Table 3.

Table 3. The examined enterprises and their business activities

No	Initiative in a cluster or outside the cluster	Leading business activity	Total numer of enterprises	No of surveys (research group)	% Enterprises in a cluster (research group)	No of surveys (control group)
1	„Cluster of Culture of the Lublin Region - strengthening the socio-economic potential of culture and tourism communities of the Region”	Cultural units, universities, construction and tourism companies	95	85	89.47	85
2	„Construction of e-information center about cultural and tourist cross-border investment heritage of Poland and Ukraine”	Cultural units, universities, construction and tourism companies	55	34	61.81	34
3	„Organizational and promotional support of LFOZ as an institution of the business environment and the leader of the Cluster of Culture in the Lublin Region”	Cultural units, universities, construction and tourism companies	30	19	63.33	19
4	„New competences of employees of the tourist industry in the Lublin province”	Tourism companies	50	31	62.00	31
5	„Advisory support for micro-enterprises as an opportunity for their development”	Construction and tourism companies	45	27	60.00	27
	Total		275	196		196

Source: research conducted by LFOZ during the project: „Cluster of Culture of the Lublin Region - strengthening the socio-economic potential of culture and tourism communities of the Region”.

As a part of the conducted research, an attempt was made to assess the activity of the enterprises in achieving their efficiency through the implementation of product, process, organizational and marketing innovations.

Among the surveyed companies from the cluster, 85 entities (89.47%) implemented such innovations and increased their efficiency over four years. At the same time, 111 entities (61.66%) of the surveyed enterprises functioning outside the cluster implemented efficiency through the introduction of innovations. Thus, the percentage of innovative active enterprises was larger in the cluster by 25.63 p.p. (Table 4).

Table 4. The activity of enterprises in the area of increasing efficiency through implementation of innovations

Efficiency and competitiveness of through implementation of cluster innovations	Enterprises in the cluster		Enterprises outside the cluster		Enterprises in total	
	No	Percentage in the research group	No	Percentage in the control group	No	The percentage of respondents
Competitively active enterprises implementing innovations	85	89.47	69	38.34	154	56
Inactive companies not implementing innovations	10	10.53	111	61.66	121	44
Total	95	100	180	100	275	100

Source: as in Table 3.

The main hypothesis (H0) for the present study was that the percentage of enterprises active in implementing innovations by operating in a cluster is equal to the percentage of enterprises active in implementing innovations outside the cluster, against the alternative hypothesis (H1) that the percentage of enterprises whose efficiency increased through innovations implemented in a cluster is higher than percentage of enterprises whose efficiency increased through innovations implemented outside the cluster. Statistical verification for different levels of significance was carried out using the test for two proportions for large samples. Based on the obtained results, it should be stated that the difference demonstrated is not statistically significant at the significance level of 0.05. When the scope of the permissible error was widen (with 92% probability), it was concluded that the percentage of enterprises with increased efficiency by implementing innovations within a cluster is higher than that of enterprises remaining outside the cluster (Table 5).

Based on this verification, it can be concluded with 97% probability that in the cluster the percentage of achieved effectiveness of enterprises is higher than among enterprises remaining outside the cluster. This applies to the whole of innovative cluster initiatives when a more tolerant significance level was accepted. The claim is then true with a probability of 94% (Table 6). However, this does not prejudge that presence of enterprises in the cluster influenced the formation of the difference found. It was only

decided that the percentage of enterprises active and effective in the area of implementation of innovations is higher in a cluster than outside the cluster.

Table 5. Increased efficiency of enterprises by implementation of innovations within a cluster or outside the cluster

Significance level α	Statistics n1 = n2 = 85, m1 = 10, m2 = 69	Critical interval < zα/2;+∞)	Verification result	Probability (1 – α) × 100%
0.01	1.765	< 2.676;+∞)	there is no reason to reject H0	98
0.05	1.765	< 1.965; +∞)	there is no reason to reject H0	95
0.06	1.765	< 1.780; +∞)	there is no reason to reject H0	94
0.07	1.765	< 1.832; +∞)	there is no reason to reject H0	93
0.08	1.765	< 1.741; +∞)	H0 rejected for H1	92

Source: as in Table 3.

Table 6. Verification of the hypothesis about the increase of the efficiency of enterprises in a cluster and outside the cluster

H0: The percentage of enterprises' efficiency among enterprises from the cluster is the same as among enterprises outside the cluster H1: The percentage of enterprises' efficiency among enterprises from the cluster is higher as among enterprises outside the cluster				
Significance level α	**Statistic n1 = n2 = 85, m1 = 10, m2 = 69**	**Critical interval < zα/2;+∞)**	**Verification result**	**Probability (1 – α) × 100%**
0.04	1.942	< 2.058;+∞)	there is no reason to reject H0	96
0.05	1.942	< 1.960;+∞)	there is no reason to reject H0	95
0.06	**1.942**	< **1.887**;+∞)	H0 rejected for H1	94
H0: The percentage of enterprises implementing innovative initiatives among enterprises in the cluster is the same as among enterprises outside the cluster H1: The percentage of enterprises implementing innovative initiatives among enterprises in the cluster is higher as among enterprises outside the cluster				
Significance level α	**Statistic from n1 = n2 = 85, m1 = 10, m2 = 69**	**Critical interval < zα/2;+∞)**	**Verification result**	**Probability (1 – α) × 100%**
0.01	2.298	< 2.583;+∞)	there is no reason to reject H0	99
0.02	2.298	< 2.336;+∞)	there is no reason to reject H0	98
0.03	**2.298**	< **2.169**;+∞)	H0 rejected for H1	97

Source: as in Table 3.

In the present study, enterprises from the cluster defined whether they would be able to be effective and competitive on the market, being outside the cluster.

It was stated that the most companies would be able to introduce product innovations to the market, even acting outside the cluster, which would increase their efficiency. On the other hand, some companies would not be able to do it. For them, it can be assumed that being in the cluster had a positive impact on their activity in the field of implementing product innovations. Some enterprises that would be able to improve efficiency by introducing these innovations even being outside the cluster indicated that implementing them would be than longer and more expensive. These enterprises constituted the majority of the surveyed enterprises from the cluster. Taking into account the estimation error made at 95% probability, it can be concluded that the benefit of the presence in the cluster in implementing product innovations reached from 10-35% of enterprises from the cluster.

The vast majority of enterprises that implemented process innovations would be able to implement such innovations even being outside the cluster. However, as many as 70% of these enterprises pointed out that beyond the cluster the time of implementing these innovations would be longer. In addition, some entities indicated that acting outside the cluster would incur higher costs of implementation of these innovations, and therefore, their efficiency would drop. Thus, presence in the cluster influenced positively the activity of 60% of enterprises in the field of implementation of process innovations. For 15-35% of enterprises from the examined cluster, it can be assumed with a 95% probability that presence of enterprises in the cluster influenced positively their activity in implementation of process innovations.

As far as organizational innovations were concerned, a part of the surveyed companies from the cluster admitted that being outside the cluster, they would not be able (definitely or rather not) to use innovative cluster initiatives. In relation to these enterprises, it can be stated that the cluster influenced positively their activity in this area. Moreover, among enterprises acting outside the cluster, almost half of them would not be able to implement organizational innovations or would probably encounter some difficulties. They pointed out that if they implemented the same organizational innovations being outside the cluster, the time of their implementation would be longer.

The percentage of enterprises that benefited from the presence in the cluster and conducting product innovations was too small to perform a reliable statistical test for one proportion. With the population size N equal 180 and the sample size n equal 95 at the assumed significance level $\alpha = 0.05$, the maximum estimation error was 7.0%. Because the estimated percentage cannot be less than 15/180 = 8.3%, hence the lower limit was established at this level.

Enterprises from the cluster declared to make innovations that increase their efficiency. These innovations were implemented as changes in work organization, introduction of IT systems supporting management and introduction of outsourcing. At the

same time, they declared that being outside the cluster, the implementation time for these innovations would be longer, the scale of innovation would be smaller and the development costs would be higher. Therefore, it can be concluded that participation in the cluster was beneficial for at least 50 surveyed enterprises constituting 40% of all surveyed entities from the cluster. It was estimated with a probability of 95% that presence in the cluster had a positive impact on the efficiency and functionality in the field of innovations implementation for 10-40% of enterprises from the surveyed cluster (Table 7).

Table 7. Effectiveness and competitiveness among the enterprises from the cluster

Competitiveness	Yes 100%	Yes 50%	No 100%	No 50%	Don´t know
Product competitiveness					
Number of enterprises competing with products = 100%, (N = 34)	46%	20%	4%	20%	15%
Number of enterprises in the cluster = 100%	15%	7%	1,5%	6%	5%
Process competitiveness					
The number of enterprises competing in terms of process = 100%, (N = 19)	45%	37%	1%	22%	1%
Number of enterprises in the cluster = 100%	9%	8%	1%	5%	1%
Organizational competitiveness					
Number of enterprises competing organizationally = 100%, (N = 31)	30%	38%	4%	13%	19%
Number of enterprises in the cluster = 100%	10%	13%	1%	5%	7%
Marketing competitiveness					
Number of enterprises competing in terms of marketing = 100%, (N = 27)	19%	30%	4%	17%	25%
Number of enterprises in the cluster = 100%	7%	10%	1%	6%	9%

Source: as in Table 3.

Conclusions

The network structure of clusters facilitates introduction of innovative solutions by participants of the clusters and improves their functional efficiency. This allows not only to offer unique categories of products and services based on synergic cooperation between entities, but also increases competitiveness over other enterprises in the same industry. The present study exposes the importance of clusters in stimulating the effectiveness of enterprises through implementation of innovations. The research shows that formalized cluster structures, supported by the innovativeness of enterprises, can result in acceleration of efficiency, in comparison with enterprises active in innovation

implementation, but not associated in a formal cluster structure. In the present study, the positive role of clusters was observed in relation to organizational, process and marketing innovations. Because the surveyed entities took part in revitalisation of old town complexes, a thesis about the beneficial impact of cluster initiatives for such activities can be pointed.

References

Billert A. (2004). Centrum staromiejskie w Żarach; problemy, metody i strategie, Słubice.

Bucka M. (2007). Klastry innowacyjne jako zintegrowana forma przedsiębiorstw w regionie, [w:] Kauf S. (red.): Polityka regionalna w okresie transformacji – cele, doświadczenia, perspektywy. Wydawnictwo Uniwersytetu Opolskiego, Opole.

Dyr T., Ziółkowska K. (2017). The intellectual capital as the regions' competitiveness factor, *Central European Review of Economics & Finance*, Vol. 17. No. 1, DOI: 10.24136/ceref.2017.002.

Kłosowski W. (2004). Metodologiczne problemy rewitalizacji obszarów miejskich w kontekście poddziałania 3.3.1. ZPORR, Bielsko-Biała.

Porter M. E. (2001). Porter o konkurencji. PWE, Warszawa.

Plawgo B. (red.), (2007). Raport rozwój struktur klastrowych w Polsce Wschodniej. Ministerstwa Rozwoju Regionalnego

Ministerstwo Gospodarki i Pracy (2004). Przewodnik dotyczący kryteriów planowania oraz zarządzania projektami dotyczącymi rewitalizacji zdegradowanych obszarów miejskich w ramach ZPORR – dokument roboczy, Warszawa.

Skalski K. (2004). Rewitalizacja obszarów starej zabudowy w miastach, Słubice.

Uchwała Nr 735/XXIX/2017 Rady Miasta Lublin z dnia 27 kwietnia 2017 r. w sprawie Programu Rewitalizacji dla Lublina na lata 2017–2023

Uchwała Nr 868/XXXIII/2017 Rady Miasta Lublin z dnia 12 października 2017 r. zmieniająca uchwałę nr 735/XXIX/2017 Rady Miasta Lublin z dnia 27 kwietnia 2017 r. w sprawie Programu Rewitalizacji dla Lublina na lata 2017–2023.