

Business Challenges in the Architecture Industry

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Abstract – This paper highlights the current critical business challenges in the architecture industry. The initial study reviews the latest statistics of the architecture industry, research findings in the discipline of architecture management, knowledge and education gaps, as well as current business needs and development perspective. The review of the Latvian architecture industry based on publicly available data and the opinion of professionals concerning the business needs of the architecture industry is used as a case study.

The main recommendations for architecture industry professionals are related to necessity to improve the architects' awareness and understanding of the influence of critical business functions to the company performance results, and application of most advanced management tools in architecture industry for ensuring business viability. The paper is highlighting the need for further research on critical business functions directly linked with specific aspects of architecture industry in different business contexts.

Keywords – Architecture industry, architecture management, business development, Latvian architecture, small and medium size enterprise.

INTRODUCTION

The growing significance of the role of creative industries in the world's social economic development leads to the urgent necessity of ensuring the efficient performance due to their long-lasting positive (intangible) impact on the society and their obvious vulnerability to structural and economic crisis [9]. Architecture industry is one of creative industries and has been considered as a part of (or close to) the construction and real estate industries, where majority (more than 80 % of almost 2.7 million European enterprises in 2016) market competitors are small and medium size enterprises (SME) [12].

The current success of the construction industry stems from the consequences of economic shrinkage, which lead to a decrease in demand for construction and architecture industry services in the market. Authorities (e.g. European Commission, European Central Bank, International Monetary Fund) analysing the consequences of the global financial crisis have stated, that performance failing of construction products markets is among the most important risk factors and has an important impact on national economies – a decrease of turnover volume of construction related businesses and employment. The European architecture industry experienced a rapid overall decline in demand between 2008 and 2012. The Architects Council of Europe (ACE) data has shown an overall industry's decline of 28 % in European countries [9]. The industry volume shrank even more impressively in the United Kingdom – more than 40 % in

the after-crisis period (The Royal Institute of British Architects – RIBA, data) [9]. Latvian construction industry, as the one of most important industrial sectors of the national economy, experienced dramatic shocks – a decrease in market volume of 30 % in 2008–2011 [7]. Since 2012, the European, as well as Latvian, construction and real estate sectors have shown a trend toward stabilization. In Q3 2017 compared with Q3 2016, production in construction increased by 2.6 % in the European Union [13]. The demand for architectural services has also increased.

Modern sustainability requirements for buildings and the new paradigm for urban development have brought to the forefront new tasks for current society and businesses, e.g. the provision for energy efficiency in buildings, sustainable (green) waste-reducing construction methods, urban renewals, universal design, participation in public discussion, place making, the use of information and communications technology (ICT) tools for design.

It became obvious, that the architecture industry professionals must also acquire new skills and knowledge to ensure efficient business performance and management (the use of geographic information systems (GIS), remote sense, Building information modelling (BIM), Big data solutions) and to effectively manage new market conditions (client's demands). The application of standardized (module-based) construction models and methods reduces the demand for relatively expensive classical architecture services worldwide. Therefore, the most important current and future challenge (also risk factor) for the architectural profession is the attraction of clients 'offering a new basket of architectural design services' [14].

Taking the lessons learned from the past (the impact of architects on the history of society and crises), it is very important to determine and ensure the implementation of critical business management functions, paying special attention to the capability of SME of the architecture industry. It is necessary to investigate whether there are general business approaches that can be successfully applied (or adapted) to the specific needs of the industry.

This paper provides a review of scientific and professional opinions on business specifics of the architectural profession, e.g. the differences of the architecture industry providing architectural design services from other industries, the specific features of the discipline of architecture management, the most popular stereotypes of the architectural profession, the most important knowledge and education problems. An overview of the Latvian architecture industry according to publicly available data and architects' opinions is also provided.

I. THE BACKGROUND OF BUSINESS MANAGEMENT IN ARCHITECTURAL DESIGN

Architecture has long served public and private organizations through its implicit activities. Until the late 20th century (pre-urbanism period), architecture was not distinguished much from urban planning. The largest cities were planned by famous professionally trained architects (e.g. Le Corbusier, K. Tange, L. P. Abercrombie, H. P. Berlage), being called 'architecture in large scale'. Post-war practices and professional education were highly criticized due to 'high conceptualizing', being 'authorities based', their 'physical and aesthetic and less human-oriented' approach [17]. Perhaps in the post-war period too much time and energy were spent in the articulation of modern movement of building design and not in architecture as a profession that serves real customers through the provision of high quality efficient products called 'buildings and structures' on resource 'land' that was limited in volume.

Since the 1960s, architectural management has greatly increased in popularity as a topic for professional discussion. In this decade, indifference to architectural management as a discipline changed the amount of interest in the fact and the understanding that management knowledge is directly related to achieving a balance between profitability and the quality of design of architectural office. The negative attitude of architects toward business had begun to change. Two separate management systems were set for architectural offices: office management (a framework for the design and composition of individual projects) and project management (the allocation and financing of resources, time and resource planning, personnel management and training, management of ICT systems, management construction process and supervision) [5], [11]. As a 'customer-oriented' business, architectural design services just like all other economic sectors, faced management challenges at three levels: 1) quick response on changing industrial environment; 2) relation to complex sets of interests (stakeholders) in the building process; 3) professional relationship and ethics.

Until the global financial crisis of the 21st century, the construction industry had not changed very much in responding to the challenges faced by other economic sectors. Many of its members felt immune to the main risks regarding value adding and technology change processes, as well as to changes in customer's preferences and values. A major reason why many architects turned to the management education mode is the general decline in architecture business (the architect does design when the client requests it). Until now, also the architectural design management as academic discipline has too slowly been integrated into the professional education system of architects and designers. There is another danger (risk) that suggested management tools (packages for design process, planning, organizing and management, as well as tactics and 'soft skills' for team-leaders, advice on cost and budget planning, risk, and procurement) are mostly designed for large famous (*starchitects*) companies [14]. Ensuring the competitiveness of small architectural design businesses is an open question that can probably be solved by the introduction of

open-source software (e.g. Open BIM) in the work of architects and bureaucrats (building boards).

II. THE PROBLEMATICS AND RESEARCH OF MANAGEMENT IN ARCHITECTURAL INDUSTRY

Many professionals, and professions, are seen to have difficulty in responding to the challenges of current business trends and demands in the global market. The term 'architectural management' has been in use since the 1960s, as development and construction became more complex and holistic, because of a shift from standard traditional construction process to innovation and experimentation [18].

Sustainability paradigm for the development put ahead new tasks for construction business and architectural design, e.g. provision of smart solutions for buildings, green construction and revitalization, ICT knowledge. Both sectors can share the same objectives but require sector-specific skills, tasks, resources, impact, responsibility and management. Management knowledge and skills are highly important for architectural design firms to compete in the market, manage architects' offices and finances, as well as relationships with clients and the profession [14].

Lack of managerial knowledge is one of the most likely reasons why only a small number of architectural companies have the potential or have already gained a place in the world of architectural market. The architectural design sector being also a part of construction business is a highly competitive business environment, where more than 80 % of competitors are self-employers and SME [12].

The manager of the architecture company, on the one hand, faces the same problems that all small companies might have, but on the other hand, the profession of an architect is the only profession in creative industries with specific requirements for education and practice. In the architect's work, it is critical to combine the creativity with experience and tacit knowledge. Often architects themselves are entrepreneurs, and thus, entrepreneurial skills are as important as artistic talent and technical knowledge. An architect is a creative designer, project manager and contract manager in one person, thus being different from other construction professionals [22]. Architectural companies represent different organizational types; therefore, business management aspects should be researched as being different from common understanding of company business management (Fig. 1).

Standard management techniques and tools, coming mainly from repetitive industrial processes, have not always fit comfortably with the image of the architect as a creative individual, rather than being a professional member of a business team.

Architectural practices generally employ an office manager who may have at their disposal an administration assistant or team of assistants. Most of all SMEs are not capable of recruiting a project manager or outsource appropriate ICT tools for management.

Project management has increasingly influenced the role of independent consultant during the building construction phase. Typically, project managers are coming from one of the surveying



Fig. 1. Specifics of industry: integrating different organization types [Figure: Authors of the article, based on [27]].

disciplines, leaving only the architectural elements to be managed in-house by the architects.

The development of business management approaches specific to the architecture industry is a relatively new and less explored sphere. Business management issues in the research were mainly addressed to construction sector as a whole, e.g. studies on the role of business models in construction business. However, there are differences between the architecture and the rest of the construction industry [23]. From the authors' view, the principles of business management of the construction industry can only be partly attributed to the architecture industry. Architect, Professor Stephen Emmitt et al, have given some clarity towards architect's office management, allowing us to track the development of architectural management disciplines (management of architecture) up to the present day [1]. Dr. Peter Demian, an expert on digital design and information management, developed architectural taxonomy management theory framework where four components of architectural business management have been set – business management, project management, management training and relationship management with stakeholders [1].

The theoretical foundation for architectural business management has been developed, including four separate processes: the management of the office, the allocation of funding and resources, trained staff and computer systems. The definition of the architectural management also was complemented by use of holistic approach to architectural work. Major researchers [1] and number of various professional associations (e.g. RIBA) have pointed out the need of carrying out the research for building new methodologies for business management in architecture industry.

Other important topic in architectural management is customer attraction and understanding their values. Ideas for changing architecture can be found in what has been learned in other industries. Developments in production sectors were primarily encouraged by successes in the Japanese systems. The same may happen in the construction and architecture industry. The Japanese approach of bringing consumer values and ideas into the production process forced global firms to shift their emphasis from concern for mass production and consumption towards questions of how

best to add value through making what consumers prefer. The same may happen in the construction industry [15].

Identification of the creative industries and related policy development in Latvia started relatively recently. The definition of creative industries was to a large extent derived from the definition of creative industries developed by the Department for Digital, Culture, Media and Sport (UK). The definition of creative industries for the first time is mentioned relatively recently in the National Cultural Policy Guidelines 2006–2015 of Latvia [3], and later in the Latvian National Development Plan 2007–2013 and in the study 'Creative Industries in Latvia' [4].

The number of studies aimed at understanding business management in the architectural industry is inadequate in Latvia. Authors G. Klāsons, A. Smiltnieks and others have studied the aspects of business management in creative industries in Latvia [16], [26]. Only a small number of Latvian architects-entrepreneurs express their views on the topicality of business management, commenting on the export potential of the architecture industry. A dominant opinion exists (mostly in small businesses) that recruiting of professional staff (project manager) or purchase of appropriate computer tools are too expensive and inefficient for application in construction and architecture industry in Latvia.

III. ARCHITECTURE INDUSTRY OVERVIEW IN LATVIA

As European Commission highlights, the architectural sector is at the heart of Europe's vibrant culture and creative industries and employs more than half a million people from more than 12 million employees of the construction industry [10]. Architecture is one of the most prominent creative industries with strong growth potential. The research carried out on the development of the creative industry sector confirms that architecture is among the most important creative industries in Latvia [21], [25], because of high investment returns, added value, and contribution to the creation of national image and international recognisability [2]. However, the development and export potential of the architecture industry is still underestimated in Latvia.

An architect as a creative profession is under the supervision of the Ministry of Culture, but the architect, as an entrepreneur must be registered in the Register of Construction Traders in Latvia. The Latvian medium-term planning document 'Architecture Sector Strategy 2014–2020' states: 'Architecture is referred to as the creative industry sector, which is at the same time an art-making environment that provides functional, technological, social, economic and ecological requirements' [18]. According to architect J. Dripe et al. [8] one of the three long-term priorities of the architecture sector are the promotion of the competitiveness of the architectural sector, improvement of the legal framework, creation of favourable conditions for creative business and the export of architectural services. Strong emphasis is put on the importance of architectural culture and artistic components, while devoting much less attention to business management and business [8].

The business indicators of the Latvian architecture industry prove the stagnation and fragmentation of the industry. During the financial crisis, the turnover in the architecture industry

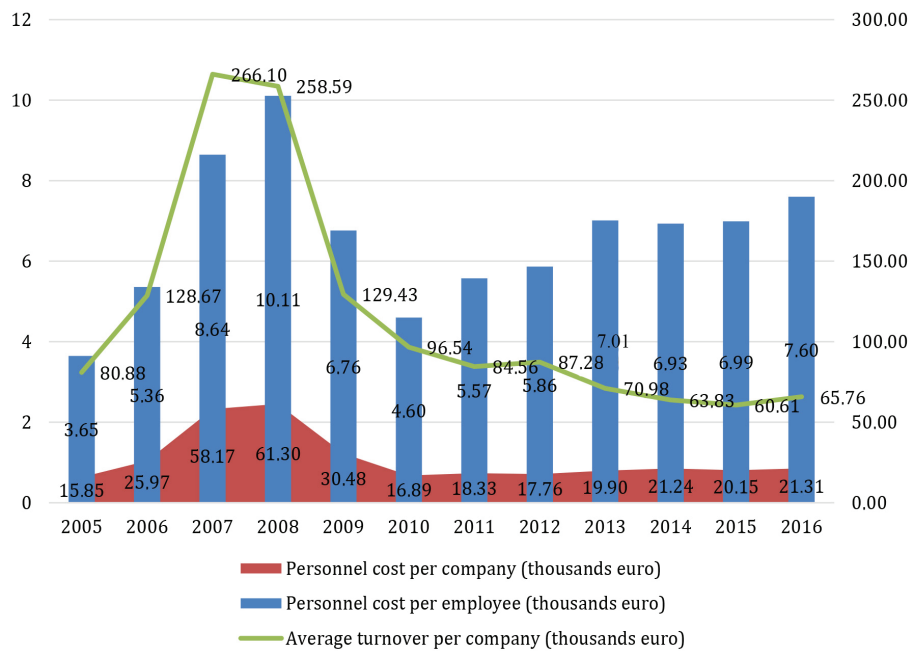


Fig. 2. General indicators of entrepreneurship for services (NACE 2nd edition), (M7111) Architectural services (2005-2016) [Figure: Authors of the article, based on [6]].

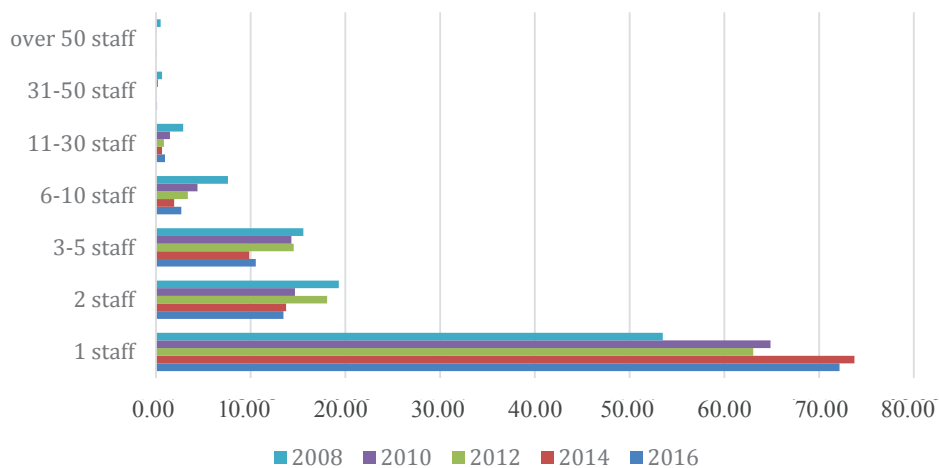


Fig. 3. Architectural practices in Europe, number of employees 2008–2016 [Figure: Authors of the article, based on data by [19]].

has decreased from 155.93 million euro to 52.34 million euro, while the number of architectural companies has increased to 938 (Fig. 2).

Statistics show that architects operate mostly as small and micro businesses in Latvia. This number increases every year, e.g. 531 companies employed 3573 employees in 2007 (which is considered to be the most successful year in past decade) whereas in 2016, 938 companies employed only 2631 employees. The structure of architecture industry in Europe also is characterized by a large number of micro enterprises and small companies with a small number of employees (Fig. 3) [19].

The recovery of the Latvian national economy from the crisis and the increase of the gross domestic product (GDP) have had a

positive impact on demand in architectural business. It is important to take the lesson from the crisis experience, in order to take preventive measures in relation to future business planning, risk management and other sustainable business issues. Based on the prognosis of demand on architectural services, the architecture industry has to improve its management to overcome challenges also in the future.

IV. DISCUSSIONS ON THE TOPIC IN ARCHITECTURAL SOCIETY IN LATVIA

The architectural services export is a current topic of professional discussions worldwide. The Organisation for Economic

Co-operation and Development (OECD) and the World Bank, in the Expert Meeting on Architectural Services in 2007, have been widely consulted on global trade of services. Public attention to this topic was drawn in the meeting of the Ministry of Culture and the Latvian Association of Architects named 'The potential of export of architecture in Latvia: challenges and opportunities' in 2012. Various aspects of the industry were discussed in relation to the contribution of architecture industry to the economy, potential of the industry development and international competitiveness, barriers and deficiencies in export processes, industry needs and state support mechanisms, etc. [20].

Latvian architects work under difficult economic conditions, receiving a small fee in contrast to their foreign counterparts. Architects are generally forced to fight for survival, which is often the reason why they are not able to get bigger orders – there is a lack of savings necessary for participation in prestigious international competitions. The participation of Latvian architects in export markets is not sufficient yet. Some architects may be somewhat afraid of competing with the western market due to many western competitors, but the East direction creates a lot of instability and special circumstances, e.g. legislative issues, the acquisition of external markets, requiring additional resources, lack of information and specific knowledge [2].

The remarkably high proportion of micro enterprises with small number of employees and turnover leads Latvian creative industries to 'survival, not to growth'. Problem analysis indicates that the most important problem of creative business industries is lack of entrepreneurial, business and management skills (ability to plan and optimize business, prepare business plans, develop financial forecasts, present business ideas, cooperation and partnerships with other companies, etc.). The lack of entrepreneurial skills is a major obstacle for attracting investment. In this context, it is urgently important to explore and adapt an architectural business model that allows architects to understand and provide more sustainable business elements more easily.

Given the fact that the creative industries are one of the most volatile industries of the economy, continuing professional development and educational opportunities are needed, which in turn is a challenge for small companies with limited resources. Architects are being educated at higher education institutions (HEI), but they have no skills and practical knowledge for starting a successful business. There is a risk that this component is not sufficiently integrated in the architectural education study programs where focus is more on achieving architectural design excellence. Riga Technical University has responded to this problem by envisaging the introduction of a mandatory new subject for all study programs, including architectural studies: 'Development of innovative products and entrepreneurship' in 2018, thus providing a good example for other HEIs [24].

CONCLUSION

The majority of architecture and construction industries professional publications and discussions still focus on the artistic component of architects, safety and sustainability of buildings.

Considering the global development trends in order to develop the creative industries, one has to think in addition about entrepreneurship and business management in architecture industry, as well.

Architects should pay more attention to the architectural management and prepare themselves for facing the challenges of doing business not only for survival but also for development.

One of the options that can help architects to increase business sustainability and resilience to various internal and external environment factors is the application of recognized business models and software (e.g. BIM) solutions by adapting them to the specifics of the creative industry.

Latvian architects' and entrepreneur's opinions on business skills show the trend of taking the leadership in their businesses regarding understanding benefits, necessary skills, carrying out of market research, following up customer's preferences in demand, ensuring continuity, improving document management, maintaining relationships with customers, business partners and other stakeholders to improve business performance.

Conducting a detailed study on architecture industry business model and management needs, e.g. on delivering an integrated business management approach that enables an enterprise to achieve its business objectives and fulfil its mission involving all stakeholders, is highly recommended.

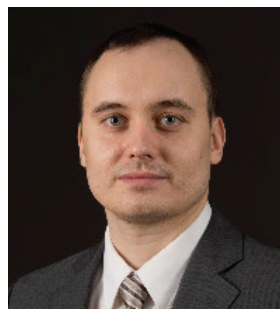
The paper is highlighting also the need for further research on critical business functions directly linked with specific aspects of architecture industry in different business contexts.

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