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Maturity Level of Programme Management in Czech Companies

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Abstract

Programme management which is kind of superstructure of project management is rarely being recognized in civil engineering in Czech Republic. A programme is a set of separate projects that are coordinated at the same time, giving the company greater efficiency and overview than management of each project separately. This paper aims to verify the current maturity level of programme management principles in Czech construction and development programmes. Three types of companies from civil engineering sector, namely consultant companies, large construction & development companies and retail companies were analyzed to define their way of managing construction programmes. The research data are based on semi-structured interviews in 16 companies. The significant differences of programme management maturity level within the company types were revealed in the study and finally future continuation of the research is being presented with the possible application in practice.

Keywords

construction company; program management maturity model; programme management; project management company; retail company

Introduction

In the Czech Republic as in many other European or world countries, there are plenty of retail companies operating on the market who own and operate a number of similar properties for their business even though the property, facility or construction management is not their specialty. Generally, facility maintenance, site reconstruction or network expansion can be described as a programme [1] as this is a set of separate projects that are coordinated at the same time, giving the company greater efficiency and overview than managing each project separately.

Large construction and development companies such as public authorities also have their own construction programmes however not a network type of programmes such as retail companies but mostly megaproject programmes [2].

Main aim of this research is to analyze the quantity and type of ongoing construction programmes in Czech Republic based on type of companies which own and manage these programmes. The programmes of public authorities are not included in this research as it is focused on private sector because of higher pressure on effectivity and profit in private companies. A programme management seems to be the appropriate way of how to manage extensive construction projects (megaprojects) or network projects effectively and how to generate extra benefits [3].

The research investigates a maturity level of programme management in retail, construction and development and consultant companies based on principles of Program Management Maturity Model [4] and the utilization of basic principles [5] of programme management in context of increasing benefit realization and effectivity in construction and development.

Methodology

Firstly an analysis of the current status of construction programme management in Czech Republic was created on the basis of semi-structured interviews [6] with project or programme managers from 16 different mostly international companies which can be divided into three categories according to the field of their business:

* the project management companies,
* the large construction and development companies
* the large international retail companies which build, operate and maintain minimum of fifty properties in Czech Republic.

The questions for semi-structured interviews were prepared according to the methodology of programme management maturity model [7] which covers four main areas: organizational structure, organizational culture, technology resources and human resources. Based on prepared questions, the interviews were subsequently evolved into the current issues of construction programme management of the company and the examples of particular procedures and tools usage. All pieces of the information obtained from the interviews were generalized by synthesis to the general recommendation of utilization of programme management for each type of companies.

Interview results

Project management companies

Project management (PMC) companies provide turnkey management of projects and programmes for investors. These companies are usually hired by retail companies, who need experts to implement their construction projects and programmes, because they do not have the appropriate staff for these activities by themselves or they have only a few own experts and need to implement a larger volume of construction projects in a short time.

Five companies specializing in project and programme management services in the construction industry took part in the research. All companies have been on the Czech market for more than ten years, have experience in managing construction of large independent buildings or retail chains, and three of them have an international representation.

Despite the fact that four of the surveyed companies state on their websites that one of the provided services is programme management, only one of the companies really deals with these activities and actively uses appropriate methods and tools. Other companies do not know the concept of programme management but after a more detailed interview the programmes are in their company, however they are managed as separate projects.

The most common types of programmes that PMC companies manage for their clients are the reconstruction of buildings or the expansion of the branch network for:

* department stores,
* stores of all kinds,
* banks and Insurance companies,
* restaurants,
* petrol stations,
* car dealers.

The costs of construction works for individual projects in such programmes ranges from hundreds of thousands to tens of millions CZK, depending on the nature of the programme and the type of the investor. The PMC companies work with an average of five clients on larger programmes, which include thirty or more projects in the programme per year. However, investors who require the implementation of several hundred projects of the programme per year are no exception.

The PMC companies have their own systems for project and programme management but administration templates and documents cover the vast majority of the whole internal procedure. Only one company offers clients (investors) access to a clear IT system where it is possible to monitor current data on the progress of individual projects in the programme and generate various reports and outputs.

One of the main activities of PMC companies is stakeholder management. This involves both the management of individual deliveries to the construction site and the communication between the various departments of the investor's company, authorities, neighbors, etc.

All PMC companies are involved in the management of individual projects in the programme from the very beginning and thus go through all phases of the programme on behalf of the investor. Of course except for the internal approval processes which are set up differently in each company. Each programme has individual milestones and their fulfillment is being monitored and evaluated by investors. The most common phases of a programme are the following:

* selection and specification of the project scope, first verification of inclusion in the programme,
* preparation of project documentation,
* compilation of the overall project budget and final verification of inclusion in the programme,
* permitting process,
* preparation of implementation (selection of a contractor, contacting framework suppliers, preparation of a schedule, etc.),
* construction works, technical supervision,
* closing the project: put in use, archive documents, evaluate an achievement to programme parameters.

At this point, most of the work of the PMC company ends. Further evaluation of project result expectations and benefits to the programme is monitored only with a time interval of several months or years directly by the investor without the participation of the PMC.

The goals of the programme for PMC companies are mostly secondary goals of the programme from the investor's point of view. As the most frequent PMC goals, the companies listed the number of completed projects from the programme per year, resp. adherence to the programme schedule and adherence to the set budget for a specific project of the programme. These goals are evaluated on quarter basis in the meetings with the investor. The entire programme is re-evaluated at its completion and all the documentation to the programme handed over to the investor for archiving. Three of the five PMC companies said they usually do not have time for a deeper analysis of gained experience and usually the team moves directly to the next programme without evaluating the benefits and difficulties. The experience gained from the programme is usually only for a specific manager and not such that could be used to the improvement and greater efficiency of internal procedures of the whole company.

Construction and development companies

Four leading Czech construction and development companies were included in the research who meet the following parameters: they have been operating on the Czech market for more than 15 years, have more than 250 employees, annual turnover is in the interval from several units to tens of billions CZK in the last five years, they operate in the Czech Republic and abroad, the main component of turnover is construction, however, one department of the company focuses on its own development programmes.

According to their managers, all of these companies have developed their own know-how for managing their construction and development programmes. Their programmes typically consist of own development of large areas so it could be said that these are programmes of the mega-construction type. The programme generally starts by the selection and purchase of land, followed by the design and building permit and finally the actual construction and sale. The programmes are formed from the apartment buildings in combination with buildings for public amenity and office buildings. The companies have a number of programmes running at the same time, each of them is in a different stage of completion because the average length of one programme is 9 years according to the interviewed managers.

Each programme is usually lead by one programme manager who manages the programme through all its phases but the structure of his team varies according to the specific phase of the programme.

Despite the fact that all the interviewed managers stated they had their own company methodology for a programme management, the general concept of programme management and its theory have never been heard of by three out of four managers. However, all the companies use the basic principles to some extent. In particular:

* Stakeholder management which has great importance in development projects of this type [8]. Insufficient management of stakeholders leads to immense time shifts especially in the preparation phase, sometimes even to a complete blockage of a part or all of the programme, according to experience.
* Division of the programme into sub-phases and determination of each phase by a stage gate where the company's board of directors approves further continuation of the programme to the next phase or an adjustment of programme objectives or parameters is proposed.
* Continuous evaluation of the programme objectives and possible revision of the next plan. These activities take place in partial steps every quarter and a major evaluation is usually performed once a year in the surveyed companies.
* The programme handover to the real estate department of the company takes place within one year after its completion and final inspection of buildings in the programme. The real estate department deals with any further client modifications and sales or leases from that moment on. A retrospective evaluation and possible revision of the established procedures on the basis of lessons learned are part of the handover procedure in construction companies.

The areas where programme management is used minimally or insufficiently were identified too based on interviews with managers. It is mainly the management of benefits which is usually narrowed to only one benefit in these companies - to implement and complete the programme in the shortest time with maximum profit which is also the main goal of the programme. During the semi-structured interviews the managers themselves identified other benefits, however, there is no standardization of management and monitoring of these benefits in the companies. The most frequently mentioned other benefits of development programmes are obtaining the references (also for public tenders), filling up a production capacity or presenting new procedures and innovations in construction to the public.

Retail companies

In the Czech Republic there are many international and local companies that use a network of real estate for their business which they own or lease and which needs to be renovated and modernized. Or the company needs to expand the entire network so that each shop is still attractive to the customers to achieve planned turnovers and realize a profit (for this paper marked as retail companies).

Seven retail companies took part in the research. They have been operating on the Czech market for more than five years, operate under an international brand, have a network of branches with more than fifty sites, which are mostly in stand-alone buildings. The main business activities of the retail companies are customer services and sales of goods with the annual turnover of units or tens of billions CZK. The surveyed retail companies operate and manage networks of stores, petrol stations and restaurants.

Retail companies say they typically run in parallel 5-10 programmes where construction works are involved. These are usually network development programmes, whether it is an opening of a branch in a new location or an extension of services in an existing location which could lead to the extension of the building. Another type of implemented programmes are the modernizations of existing facilities, systems or technologies. The costs of construction works in the programme range from 50 thousands to 50 million CZK for one project in the programme, depending on the scope and type of programme specification.

Some programmes last for several years, others are short-term usually ending within one year of its start. An example of a long-term programme can be the reconstruction of car wash halls including the replacement of the car wash portal in the entire network of petrol stations. The planning of the programme takes into account the current state of equipment and facility and therefore it is not desirable to carry out the replacement of the whole network at the same time. On the other hand a short-term programme can be for example the replacement of outdoor signage on the building which is desirable to be finished across the whole network as quickly as possible because of a better customer orientation and network integrity.

One of the most desired benefits of retail construction programmes is that all network sites look similar and they offer the same standard to the customer at all branches. Therefore a great effort is devoted to standardization of procedures, used material and equipment, design etc. within the programmes of retail companies. As a result the operation of the entire network could be managed by standardized processes and using unified solutions. Also it is possible to negotiate discounts with a number of suppliers for wholesale purchase of materials and equipment for the network construction programmes which could be another benefit. Likewise, designers and architects are used to standardized projects and it is not necessary for them to invent new technical solutions. Further on, construction companies know the standardized design and they can prevent any extra work costs because of detecting the designer's error in time thanks to the knowledge of investors´ requirements from previous installations.

In all the surveyed retail companies, there is one department within the organizational structure of the company which is in charge of managing construction and development programmes or which is responsible for investment into facilities. The used methods of programme management are based on the own invention and organizational skills of the specific managers. Only two from seven companies have a systematic organization structure:

* most of the company's programmes are managed by the head of this department,
* 3-8 employees in the department manage individual projects from the programmes,
* the PMC companies are hired for a project or programme management if necessary,
* the company's programme manager is mainly in charge of managing finances, time schedule and securing framework contractors for individual deliveries for the entire programme,
* project managers take care of specific projects so that they are in line with defined programme milestones, budget and requirements.

All programme managers at the surveyed retail companies have a high school or university technical education, have been working in the company for more than five years and have gradually worked their way up to this position from project managers by gaining experience in project management and corporate programmes. None of the interviewed managers is interested in programme management because they do not know this term and they have never seen any specialized publication about this topic. Most of the procedures of programme management are based on the internal settings of a particular company.

All surveyed retail companies are international corporations so the approval of most of the programmes takes place in several phases in five of the seven companies. After each completed phase the parameters, goals and benefits of a programme are presented to a committee composed of directors of various departments on an international level, who consent to the continuation of the programme. Only in two of the surveyed companies the programmes are approved on the local level of management and the international maternal organization is not involved in the approval process.

Continuous evaluation of the fulfillment of programme objectives takes place in all surveyed retail companies on a regular basis at least once a year by comparing the defined parameters with the actually achieved values and the subsequent presentation to the company's management. At the same time, 4 out of 7 surveyed companies also undergo ongoing evaluation and possible adjustment of programme parameters whenever the programme reaches the end of one of its phases and it is necessary to submit the programme for approval and movement to the next phase.

Conclusion and recommendation

The research covers a sample of the three types of companies who could manage construction and development programmes. It is obvious from the responses that all the companies have several programmes in their portfolios nevertheless the programmes are managed mostly as a separate projects with lack of understanding or knowledge of the programme management principles.

The results from semi-structured interviews show that the standard of utilization of programme management is low or completely missing in PMC companies and retail companies in the Czech Republic. In view of the fact that almost all surveyed companies are part of an international corporation it is highly probable that the management of construction programmes is on the same level also in many other countries where these companies operate.

On the contrary, large construction and development companies use the majority of principles of programme management, their managers are trained in internal processes and they use sufficient equipment and IT tools to their work. Nevertheless benefit management is being underestimated or ignored in the construction programmes of this type of companies. The construction programme is typically a megaproject there. The overview of results is shown in table 1.

Table 1: Programme maturity evaluation of surveyed companies (source: author)

|  |  |  |  |
| --- | --- | --- | --- |
|  | PMC company | Construction and development company | Retail company |
| Typical programme type | network programmes, megaprojects | megaprojects | network programmes |
| Organizational structure | need to be incorporated to organizational structure of client team | satisfactory - team members floating according to specific phase of programme | unsatisfactory in 70 % of companies |
| Organizational culture | sufficient to the client requirements | sufficient to the programme specification | depends on specific company |
| Technology resources | insufficient IT tools, sufficient equipment | sufficient equipment and IT tools | insufficient IT tools or lack of ability of usage, sufficient equipment |
| Human resources | project managers with experience of programmes, no specific training | project managers with experience of programmes, only internal training | project managers with experience of programmes, no specific training |
| Stakeholder management | high concentration of stakeholders | high concentration of stakeholders | high concentration of stakeholders |
| Benefit management | totally minimized or ignored | totally minimized or ignored | totally minimized or ignored |

PMC companies should be the experts and promoters of new or advanced methods of managing construction projects and programmes however the results from interviews show the exact opposite. The principles of programme management are unknown to them, no special IT tools are used, benefit management is implemented only intuitively with the exception of one PMC company.

Special education and training for programme managers is missing in the whole sector of civil engineering. Programme managers are exclusively experienced project managers who have strong organizational skills and common sense. Knowing the methodology and using proper tools could help them to succeed in the finalization of programme goals with greater effectivity and less stress and effort.

Large retail companies have extensive construction and development programmes but they do not use any methodology and tools for managing them. However, using programme management techniques for network projects seems to bring many benefits for the company such as time optimization due to proper planning of resources, cost savings due to wholesale frame contracts, client recognition due to standardisation and many others.

As a continuation of this research a set of simple tools in MS Excel will be created. The tools will be semi-automized by using VBA and predefined formulas in order to aid programme managers with implementation of standardized programme management methodology into their everyday work. This will allow programme managers to implement methodology without the necessity of initial investment costs into dedicated software and user training. Finally all tools will be tested in five chosen retail companies from previous semi-structured interviews as they are identified as the companies which can profit the most from the proper knowledge and tool utilization of programme management. The feedback on the functionality of these tools and the changes of work efficiency will be recognized by a short questionnaire to each manager from five companies. In practice, retail companies could later start further customization of given tools or upgrade to a dedicated software and together with programme managers education and training they could address their specific needs and gain more benefits from proper programme management approach.

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