

# PROJECT MANAGEMENT METHODOLOGY IN THE PUBLIC AND PRIVATE SECTOR: THE CASE OF AN EMERGING MARKET

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## Abstract

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Application of project management methodologies in different countries is varied. The preference of a particular methodology largely depends on the specific features of a project management system in use. The aim of the paper is to draw the attention of project-involved readers to the need to develop, not a guide, but a specific project management methodology for projects in the public-private sector. The objective pursued by the paper is to provide useful recommendations for improving the existing methodologies on project management in the public-private sector. Kazakhstan's experience in implementing project management methodologies in its public sector is sporadic while its private sector uses of modern methodologies build on external investor proven practices. At the background of the low exposure of the public sector to the best of project management methodologies, the paper reviews existing international project management methodologies and develops useful recommendations on the methodology, most suitable for a developing country's public-private sector, on Kazakhstan's example.

**Keywords:** Project Management Methodology, Public-Private Partnerships (PPP) Projects, Specificities Of The Developing Country PPPs

## INTRODUCTION

Public-private sector development is the cradle of the vibrant growth in an economy. And yet, this sector has not been boosted to the maximum of its capacity in most developing countries. Indeed, failure to focus on the public-private sector potential has drawn many countries off their track in increasing economic growth and employment. Despite that public-private sector dynamism tends to depend on investments inflows as well as a more creative financing, the real problem is not in the sufficient investments. The problem is in the fragmented approach to the system of management in this sector. A fragmented approach to planning, financing, operation, and delivery often tends to result in unexpected losses of assets, dynamism and investor confidence. What could be done in this field in order to avoid unforeseen outcomes? What are the tools to be deployed for the public-private sector to become a driving force of a greater economic growth in a developing country?

Developing a new approach - based on a comprehensive systemic perspective - should become a priority for the public-private sector with

the capacity to augment economic growth. That is precisely what Kazakhstan aims to do, by creating a strong operational stronghold within its public and private partnerships (PPP). The country thinks of promoting its PPP projects by applying the comprehensive systemic approach of the project management methodology. Without this, the task faced by the country to maintain the economic growth rate at the annual 5 percent rate and absorb nearly US\$10 billion investments in year 2016 and, subsequently, in the upcoming decade, may become complex, to keep pace with GDP growth. Added to this, the country faces the task of re-launching its long term PPP development program. The latter is set forth to increase twofold annual quantities of PPP projects and obtain professional certification on project management of at least 150 employees per year during 2016-2020. These tasks need to be implemented by means of the PPP projects following the conventional view that PPP frameworks are more efficient and effective than public ones.

Having the stock of the completed 900 large scale industrial projects behind, Kazakhstan intends to develop a more pragmatic approach to managing its projects. It intends to adopt a systemic

evaluation of costs and benefits, based on the precise criteria that account for value-for-money based project outputs for the benefit of the economy and societal milieu. Moreover, the government has geared to introduce a cost-review program to screen through economically viable projects capable of delivering value added to the projected economic growth. It plans to evaluate all proposed public projects using standard forms, procedures, and metrics – and accept only those that provide value-for-money deliveries. In some advanced countries, such cost review rejects as many as 35 percent of projects during the selection stage. That saves effort, time and budget

Achieving vibrancy in PPP projects simply requires a less fragmented approach in government, and more cooperation between the public and private sectors while being symbols of inclusive and sustainable economic growth. In such countries as South Korea, South Africa, Taiwan, the Philippines, and Chile the PPPs are, by virtue, the vehicles of growth. In this, Kazakhstan admits that PPP projects can provide more than an impulse to the economic growth by offering new approaches on planning, design, building, and operation.

Kazakhstan's policymakers are certain to ensure that growth be commensurate with aspirations of people and are prepared to install the right balance. To enable a balanced economic growth, however, a coherent systemic approach must be adopted. The paper views that all above could be done through sound project methodologies suitable for developing economies, including Kazakhstan.

### Problem Statement, Aim and Objectives of the Study

The aim of the paper is to draw the attention of project-involved readers to the need to develop, not a guide, but a specific project management methodology for projects in the public-private sector. To pursue it, a detailed review of Kazakhstan's high level government meetings, forums, round table discussions with the prime agenda of visualizing operational effectiveness and efficiency of the nation scale projects, fulfilled in the framework of the country's six year program of industrialization, has revealed that amongst major factors impeding project implementation, the lack of the integrated approach to handling national projects has been a prime deficiency. Other bottlenecks standing in the way of successful implementation of projects have been named as follows: (1) low professional profile of project handling personnel and (2) low key management skills. Other challenges have been listed as follows: poor planning, outdated accounting procedures, ineffective methods of budgeting that led to faulty under-or-over scored appraisals, poor selection of projects, lack of a coherent overall coordination of projects, and, eventually, inadequate project execution, operation, and supervision. Those deficiencies have resulted in the deferral of Kazakhstan's 21 large scale projects and 12 project terminations by the end of the second quarter of year 2016. The above challenges often happen and thereby the need to explore ways to adequately encounter them is more than acute. In order to explore this subject matter, the paper has examined

3500 past and present public-private projects and the findings have been reflected in the following sections of this paper.

As with the above described observations intact, the objectives of the study have been set as follows:

- To review the existing internationally popular project management (PM) methodologies;
- To compare them vs. Kazakhstan's PM methodologies;
- Match the needs of Kazakhstan's PM system with key features of internationally practiced PM methodologies that may answer local needs;
- To review Kazakhstan's national PM standards to see whether there are any missing links;
- To identify most urgent needs in Kazakhstan's PM, and
- To provide the recommendations for improving the PM of Kazakhstan, a developing country.

### LITERATURE REVIEW

As mentioned earlier, Kazakhstan plans to achieve the realization of its core objectives through PPP projects. In choosing the right project management methodologies – according to the view of Kazakhstan's Public-Private Partnership (KPPPC) – the application of project management methodologies allowed some developing countries to achieve a more vibrant growth and competitiveness. Yet, in practice project management methodologies are often thought as a burden on the already heavy workload of project managers. Reversely, a thinking that a methodology may be as lean and flexible as possible seems to win the day (Wyss, 2013).

In the meantime, amidst various project management methodologies, Agile has proven *handy* for its flexibility and the ability to produce quick results. However, in practice, the notions of flexibility and leanness in using this methodology have incited a misconception that Agile means anarchy (Donovan, 2013).

At the same time, *The Agile Movement*, an international entity in charge of methodological aspects and software, pointed the unique ability of Agile in steering a project within a specified time in a direction that may be different from one, originally planned. The advantage of this feature is manifested through vigilance of the methodology. In specific terms, if anything went wrong with a project, it could be cured expeditiously and at no risk to the overall life time of the project. In the same respect, the practicality of this methodology in avoiding the phenomenon known as the analysis paralysis attracts most project managers. Flexibility of Agile is especially seen in the recurrent opportunities that this methodology provides to stakeholders. Such opportunities are – to periodically calibrate project outputs vs. the changing requirements of the real world. It helps companies to replan their outputs so that the commercial value of project releases is optimized at maximum, to be market competitive.

The review showed that scale of the global landscape of modern project management methodologies looks impressive. An expert view quoted the PMI-derived data that over 32.6 million of

world's employees are available in labor market for participating in projects during 2016 (Gasiorowski-Denis, 2013).

Such critical labor force introduces growth-oriented changes in diverse areas of economic activity and generates conceptually new products and services. At the back of the global project vibrancy, Kazakhstan's experts admitted the increasing importance of project management. According to some of them, around US\$ 10 trillion is being spent annually on project management, globally (Taizhanova, 2015).

As regards the increasing impact of project management, nearly 40% of public good is being generated through projects, according to a group of Kazakhstan's experts (Tsekhoi A.F., Karmazina L.I., Nekrasova N.A., 2015).

Kazakhstan has carefully examined the key project management methodologies for potentially adapting them inside the country and has figured most suitable ones for Kazakhstan's realities. These turned out to be as follows: PMBOK Guide, PRINCE2, P2M, and MSF. The above-noted step has been justified by international sources that pointed that nearly 60% chief executive officers (CEO) in world's leading companies admit that application of project management methodologies has resulted in the substantial increase of efficiency of project operations. Besides, 40% CEO think that applying project management methodologies ensures completion of projects on time and budget. According to Kazakhstan's researchers, the use of the conventional management system in most public sector organizations does not meet the changing requirements of local businesses. Inflexible but stable set-up of the conventional management system seems to adversely impact competitiveness and agility of the country's business environment, as shown in Table 1.

The observations of the study as regards the fact of applying of the right project management methodologies in Kazakhstan revealed key visible characteristics of the locally used project management methodologies. According to A. S. Ecengeldina, those are sporadic, chaotic, incoherent, non-systemic, and disconnected. Also, the study found the existence of the companies under the private and public-private ownership that use project management methodologies and techniques effectively (Ecengeldina, 2015). Added to this, Kazakhstan scientist (Kasenov, 2015) stated that, today, one cannot find a single company or a project of global value that do not use PM methodologies. Kazakhstan's researcher on project management methodologies (Lazarenko, 2015) pointed the development of project management as an important tool in implementing the country's strategic plans and increasing its competitiveness. One of Kazakh researchers (Shakirova, 2015) indicated one of the major problems in the way of successfully implementing the PM in Kazakhstan to be the quality of training of managerial staff and lack of experienced project managers. Another researcher (Seitkaliyeva, 2015) stressed the importance of the PM for developing Kazakhstan's industrial and innovations strategy. Researchers (Abdygapparova S.B, 2015) developed the model of economic efficiency of innovational investment projects on alternative energies using the PM

techniques to shift the share of alternative energies as they stand at 1% of total to 50%. However, the above researchers mainly explored public investment projects and none touched upon the PPP projects. Little mention in the existing literature has ever been made in regard to the PPP project PM methodologies. The paper is of the view that the existing vacuum of researches relating to the PM methodologies for PPP projects and to the adaptability of the existing methodologies to specific needs of developing countries where rapid changes and transformations are a common phenomenon, should be filled in. Moreover, the gap in researches, capable of clearly identifying which methodologies Kazakhstan should use as a developing country in its public-private sector, is wide and conspicuous. The present points the missing link or rather the gap for providing clear indications of which direction Kazakhstan's project managers should move along. That may be true to any given developing country.

### **Kazakhstan's Specificities and Needs for the PM Methodologies**

Every day operations of various international organizations and their branches, located in the territory of Kazakhstan, registered a broad use of project management methodologies. However, the study found the absence of inter-linkages between the existing users and potentially future users of project management methodologies & techniques in Kazakhstan.

Besides, the study pointed unavailability inside the country of lead international project specialized organizations or their subsidiaries that could provide project management services and counsel for PPP projects. The study suggested that such entities, if established at country level, would fill in the missing market niche to provide training and certification on project management methodologies & techniques for local PPP project managers.

In an attempt to figure out project management tools that will have taken due account of Kazakhstan's project-related specificities and needs, the paper reviewed key international project management methodologies. Thus, the paper offers the following brief overview of most visible features of internationally popular PM methodologies.

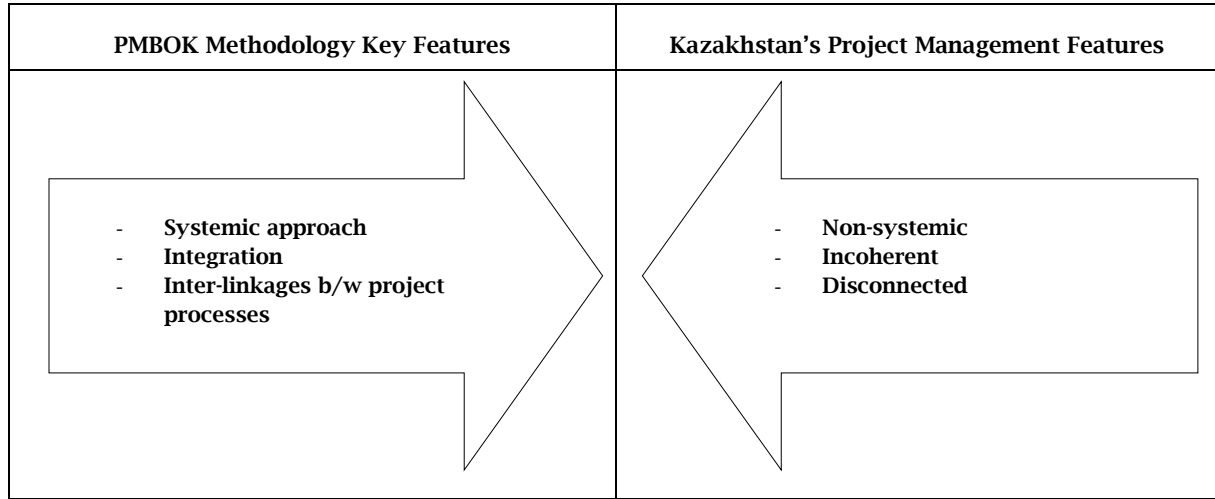
Kazakhstan's stand on the PMBOK methodology at country level, Kazakhstan offers a vast activity area welcoming the deployment of new project operations, to adjust to PMBOK methodology. To that effect, last year, on December 15, 2015, Kazakhstan's President announced the launch of 120 new projects at the estimated total value of KZT 800 billion. In the same year, the country joined world's 50 lead exporters by improving its standing within this category to the 43<sup>rd</sup> position (Nazarbayev, 2015).

The above facts indicate at promising opportunities for deploying PM methodologies inside the country. Namely, the PMBOK methodology may essentially help in steering the fair amount of projects through to their successful realization. The present study described the ways of how the PMBOK methodology can be instrumental in improving the country's PM status. In this regard, the absence of a systemic approach in implementing Kazakhstan's

public and private projects is the key factor in place that necessitates immediate steps to install comprehensive training of personnel in the country's public sector. Such urgency is also for

introducing project management frameworks in the organizational structure of public sector organizations. For details, please, see Figure 1.

**Figure 1.** How PMBOK Can Help Improve Project Management at Country Level

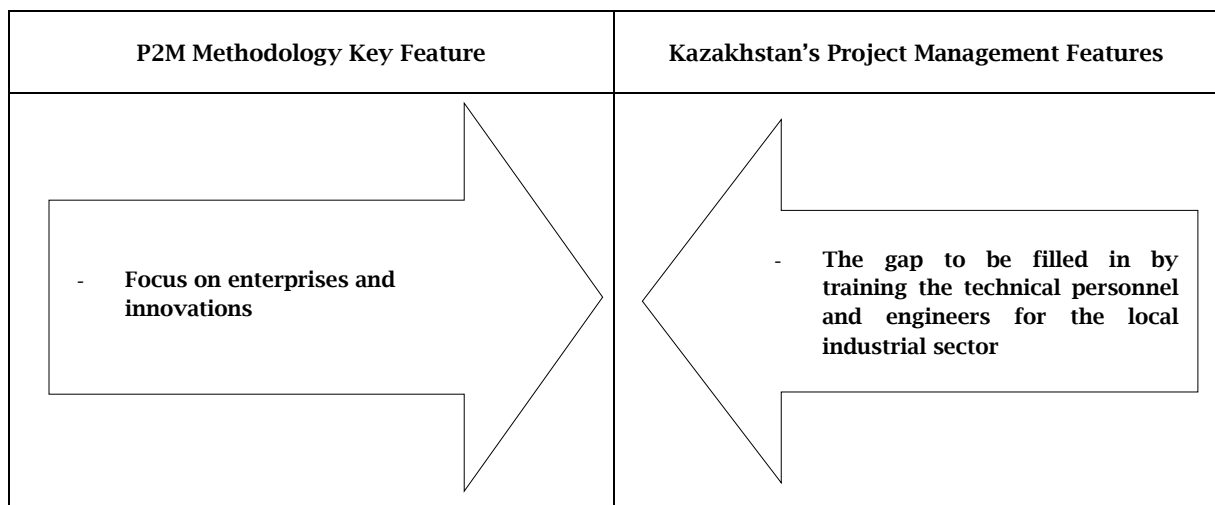


On November 30, 2015, in his annual address to the people of Kazakhstan, President N.A. Nazarbayev highlighted the country's need for engineers and qualified technical personnel. Against this background, he announced that in year 2017 and onwards vocational training of technical personnel will be granted to all interested, on no-paid basis. In this regard, it is anticipated that in less than a year the enrollment for technical professions will start at increasing scales, at no delay (Nazarbayev, 2015). In this, the P2M methodology will have had a critical role to play, especially, in training of the innovations-minded engineers for Kazakhstan's industrial sector where the demand for engineers has been registered high.

Furthermore, the P2M methodology is useful in addressing the country's needs on fostering creativity and innovations-based thinking in the local society. In this regard, Kazakhstan's Head of State stressed the importance of creating favorable conditions for continuous growth of the middle income class, formation and development of the creative class - the lead driving force of the innovations economics (Nazarbayev, 2012).

In analyzing how P2M can help minimize the missing gap in technical professions, Figure 2 reflected matching major features of P2M methodology with Kazakhstan's urgent needs for immediate training engineers and technical staff in the industrial sector.

**Figure 2.** How P2M Can Help Minimize the Missing Gap in Technical Professions



The project management approach on fracturing any large quantity into smaller manageable components has, so far, been actively used in Kazakhstan's broad areas of activities. As an example, the application of the above noted

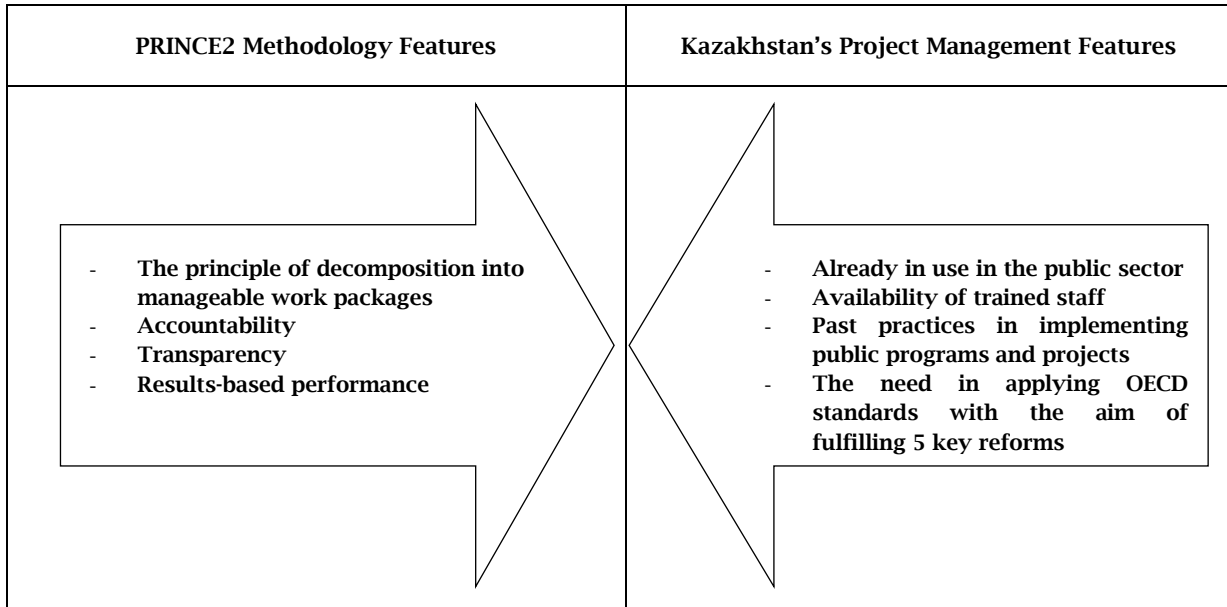
approach has been found effective in the public budget planning processes. From the stance of the efficiently managing the execution of the public budget, including public funding of large-scale-public investment projects, PRINCE2 has proven

indispensable. In this regard, its use has been extensive in the nation-wide programmes. In addition, most of the country's civil servants have already been trained for PRINCE2 over the relatively recent past.

In the meantime, Kazakhstan has become first amongst the Newly Independent States to step up the five key institutional reforms that are based on the OECD standards (Nazarbayev, 2016). In pushing these reforms through to their full realization,

Kazakhstan currently needs to expeditiously implement the principles of accountability, transparency, and result-based performance. Luckily, all the above listed principles have been envisaged in the PRINCE2 methodology. Figure 3 portrayed key features relating to PRINCE2 that are characteristics of the present day Kazakhstan's project management system. It showed how the PRINCE2 methodology can further build on its past practices in Kazakhstan.

**Figure 3.** How PRINCE2 Can Further Build on its Past Practices in Kazakhstan



The need for developing an adequate competency in Kazakhstan in the areas of smart technologies, artificial intelligence, integration of cybernetics systems and, in this regard, the urge to develop specific project designing & engineering, has been voiced at high governmental level on November 15, 2015. In answering the above urgencies, the Microsoft Solutions Framework methodology is likely to be critical, given its highly technological IT driven tools & techniques.

However, a demographic study of Kazakhstan's high skilled manpower revealed that the proportion of youth in major administrative cities prevails over other population strata. Thus, in the capital city of Astana, the average age of the local residents has registered 30 years, according to the official note titled *The Average Age of Astana Resident - 30 years* published by the municipal government of the Astana city on February 19, 2014 and posted on its information portal.

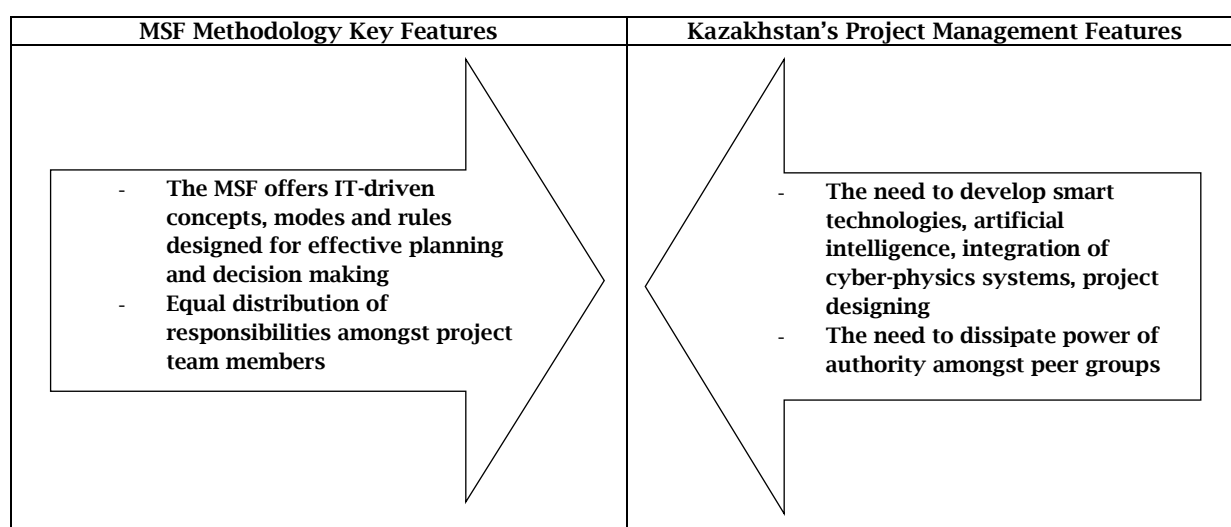
Owing to the fact that professional degrees, obtained by most youth are mainly in areas of public management & administration, the likelihood of incidences of power struggle amongst young equals is conspicuous. In the same regard, reasonably justified healthy ambitions of young professionals as regards their talent growth are buttressed by the greater level of competition for management-level jobs. In this, essential managerial skills are needed. Those may be ensured by project management methodologies of which project training is an integral part. In this regard, the methodology

offered by Microsoft Solutions Framework especially in dissipating the powers of authority amongst peer leaders might have been helpful in potentially applying this methodology in a predominantly youth-populated working environment in Kazakhstan's urban areas. Table 1 shows the differences between Kazakhstan's conventional public management system and its existing project management system. The key features of the MSF methodology suggest that professionally qualified managers should assume the roles of consulting and coaching in project implementation rather than controlling and mentoring. Diagram 4 reflected Kazakhstan's key objectives as far as smart technologies are concerned and how MSF can be adapted into the existing sets of MS-driven skills. The need for dissipating leadership ambitions amongst young peer groups through using adequate project management methodologies exists. That need may effectively be answered by using the MSF methodology as well as the organizational project management approach suggesting the introduction of a matrix-based organization of works (Davis, 1978).

**Table 1.** Key Features of the Conventional Public Sector Management System and Project Management System

No	Traditional Management System	Project Management System
1	The system is responsible for the <i>status-quo</i> of an organization or a company;	The system is responsible for the <i>change control</i> ;
2	Powers of authority in an organization are configured by the type of the management system;	The system enables the invisibility of borders between powers of authority;
3	Tasks are fixed;	Tasks may change;
4	The scope of responsibilities is confined to a certain function;	The scope of responsibilities is multifunctional;
5	The system is designed to fit a permanently fixed organizational structure;	The system is designed for an organizational structure over the life time of a project;
6	A task is described as a service;	A task is associated with creativity and innovations;
7	The key task is optimization;	The key task is finding a solution;
8	Success is defined as achieving intermediate goals;	Success is defined as achieving the target goals;
9	The system contains a limited set of variables.	The system contains internal uncertainties.

**Figure 4.** How MSF Can Be Adapted to Kazakhstan's Existing Set of MS-driven Skills



**Kazakhstan's National Project Management Standards**

The study revealed that national project management standards and methodologies mainly

focus on information technologies and innovations, as reflected in Table 2. Kazakhstan's national standard titled 'СТП ISO 21500-2014 Guidance on Project Management' has been validated in November 2014 (STRK, 2014).

**Table 2.** National Project Management Standards of Countries

Country	Name of the National Project Management Standard
UK	BSI BS 6079
	APM Body of Knowledge
	OSCEng
Germany	DIN 69901
	V-Modell
USA	NASA Project Management
Switzerland	VZPM
	Hermes Method
France	AFITEP
Austria	ANCSPM
Canada	CAN/CSA-ISO 10006-98
China	C-PMBOK
South Africa	South African NQF4
India	CEPM
South Korea	PROMAT
Russia	ГОСТ Р 54869—2011 Project management. Requirements for project management.
	ГОСТ Р 54870—2011. Project management. Requirements for project management.
	ГОСТ Р 54871—2011. Programme management. Requirements for programme management.

The study found that the approach taken by Kazakhstan's project management standards envisages a cyclical non-repetitive activity. Driven by the needs of the strategic nation-scale industrial projects, Kazakhstan's PM standards focus mainly on developing a coherent systemic approach to handling the projects. It tilts in favor of the project approach to a long-term continuous and sustainable project process. According to Kazakhstan's project management stance on the systemic approach, the project is a targeted change of a certain environment. It is limited in time, resources and contains certain set requirements as regards parameters of project outcomes. The project is viewed as the process of transiting a project from an initial stage to a final stage, which suggests that a measurable result is obtained with an account of certain project constraints.

The study found that the notion of the PM, according to Kazakhstan's national project management standards is the application of the methods, tools, techniques, and skills in handling the projects. Kazakhstan's PM concept includes the integration of various phases of the project's life cycle. It is implemented through processes that require to be interlinked within system. Each phase of the project's life cycle should have concrete results that need to be regularly reviewed throughout project implementation in accordance with specific requirements of interested parties to the project.

The study also found that the prime project requirements, according to Kazakhstan's PM standards, should be those of the project owner. The efficacy of the project may be increased through the optimal distribution of scopes of responsibilities over the project and mitigation of the conflict of interests of all parties to the project.

Kazakhstan draws special attention to contractual obligations of project parties. Effective management of the execution of those obligations primarily by the owner and the executor, are the key factors leading to a success of the project. Contractual obligations are laid down in Kazakhstan's standards defining the rights and obligations of parties to the project.

The study noted Kazakhstan's focus on the coherence of project phases, processes, operations. Within this focus, Kazakhstan's PM methodology should be adapted to focus more on the optimal logically consistent coherence between goals, time, finances, quality of project outcomes, along with other parameters of the project. The above requirements on the PM, according to Kazakhstan standards, should be accorded between all project parties. In this context, the paper considers that the importance of the right choice of the project management methodology should not be underscored. As with the above, the study suggested that Kazakhstan's PM standards under PM methodology may need improvements in order to meet the following objectives faced by PPP projects to:

- increase investment projects by 2020 double their annual quantity through using PPP mechanisms;
- increase the number of region-scale programmes on the PPP development to at least 16, in total;

- increase the number of the project management certified professionals to at least 150 persons per year;
- facilitate formation of the sustainable PPP project pipeline, and
- guide on the development of the contract-type PPP projects.

Having studied specific features of Kazakhstan's PM, at the background of internationally adopted PM methodologies, the study observed the absence of a PM methodology for PPP projects. Such vacuum still exists in spite of the fact that Kazakhstan's PPP projects essentially differ from the bulk of other projects. As such, they need to be applied a specific PM methodology. At the same time, there are various guides on how to handle PPP projects but those suggest the framework of specific international organizations. Moreover, policies and methodological guidelines are commensurate to the specific aims and objectives of the international organizations that are in the ownership of those guides and manuals. Specific PM methodological content would nevertheless be much preferred.

As per the distinctive nature of the PPP projects, these are important from the multipurpose perspectives. As Hirschman pointed the projects, in general, are the privileged particles of the development process (Hirschman, 1967). In overcoming its path to a sustainable development, Kazakhstan has geared to join world's 30 advanced countries by year 2020. The country plans to achieve this goal through the realization of large-scale-projects at national scale. One of the driving forces in achieving the country's goal is placed on the PPP projects. On 18 May 2016, the Head of State of Kazakhstan N.A. Nazarbayev suggested revisiting the principles of the realization of the six year national program of which 21 projects have been deferred. Specifically, he suggested introducing new project implementation criteria that should be based on the competitiveness of projects, efficiency of project-based business models, and value-for-money outcomes deriving from project performance (State, 2016). Subsequently, in another public statement voiced on May 26, 2016, at Astana Economic Forum, he stressed that the public sector shall focus on the reduction of state participation in the economy of up to 15 percent share of GDP, following the OECD countries' practices. In sum, the country focuses on using PPP mechanisms in nation-wide projects with the aim of bringing more efficiency in public budgeting. In this regard, Kazakhstan's President suggested deploying additional tools of promoting private investments in priority areas of the national economy (Nazarbayev, 2016). The above evidences does support the increasingly sensible role attached to the PPP mechanisms in the development of the national economy towards its sustainable, inclusive, near future growth. One of such mechanisms is the PM methodology for PPP projects, which is expected to enable efficient financial management and money-for-value project delivery, as viewed at the high government level.

Given the increasing role played in national economies, including that of Kazakhstan, by the private sector participation, the study recommended that a Guide on PM for PPP Projects needs to be

developed and released, preferably, under the auspices of the Project Management Institute (PMI). The proposed Guide could suggest on potential ways, techniques, principles and standards, specific for managing the PPP projects. In this regard, the development of a methodology on training of relevant project personnel, to manage & implement the PPP projects, especially on the PPP-modeled financing schemes, assessment & evaluation of PPP projects with the emphasis on the commercial value, and expert examination by executing authorities would be invaluable.

### **Certification to Enable Sustainable Knowledge Sharing on PPP Projects**

Kazakhstan's Association of Project Managers, an Almaty-based non-government entity, dealing with issues relating to project managers, inclusive of certification of project managers. However, it does not provide specific knowledge and hands-on training on PPP projects management. The study found that knowledge of the PM theory alone is not sufficient for handling projects under real time circumstances. This observation suggested that experience, analytical and leadership skills and relevant behavioral habits are necessary for quality based project management, especially in public and private sector.

The study found that one of the most important prerequisites to managing Kazakhstan's PPP projects is for project managers to widely project the PPP goals and objectives through the realm of the societal view because public is often unaware of what the PPP is. That is especially needed since local PPP projects stage a special blend of characteristics attributable to both, public and private projects. As such, these are not always spotted by public eye. Likewise, they are not always understood because of their varied impacts, as PPP projects. In this, the study found that the standards on ethics of business in handling PPP project operations must be strictly complied with. For a success of PPP project managers, the study confirmed that a certain degree of optimism should be present. Optimism helps well present PPP projects and promote them so that awareness of PPPs projects holds high in public even in cases of failures.

The study forecasted certain advantages out of professional certification of Kazakhstan's PPP project managers. First, upon having been assessed for professional competency, a project manager may plan his/her future career path. Second, an employer may be able to visualize a clear picture of the local labor market, focusing on an offer-and-demand for Kazakhstan's PPP project managers. That will allow a potential employer to save time and efforts in recruiting and, most importantly, further fostering talent growth in project managers. Third, government will obtain an opportunity to free itself from the obligations associated with human resources development while at the same time maintain regulatory functions over the overall process. In other words, government would

concentrate more on the development effectiveness of educational establishments and compliance of the level of professional competency of civil servants in various sectors of national economy against international standards.

Given Kazakhstan's optimistic expectations of the near future growth in project management talent, the study revealed stark realities of the present day low level knowledge and skill on the PM of the PPP projects. This has been true not only for the public but in some instances for the private sector as well. In this connection, the outstanding need for professional PPP project managers indicates that no less than 40 percent of the total staff of Kazakhstan's organizations and enterprises that are directly involved in PPP projects must be certified.

### **DISCUSSION OF FINDINGS**

In overall, 3500 past and present projects have been considered and the total of seven factors was used in analyzing the key most visible characteristics of internationally popular PM methodologies with the objective to find the most suitable for Kazakhstan's PPP projects. To identify the needs of the PPP projects in the PM methodology, the analyses covered projects in Kazakhstan's 14 administrative regions: Aktyubinsk, Akmola, Almaty, Atyrau, East Kazakhstan, Kostanai, Kyzylorda, Karaganda, Mangystau, North Kazakhstan, Pavlodar, South Kazakhstan, West Kazakhstan, Zhambyl and 2 cities of the republican status: Astana and Almaty.

The above noted project bulk included the following types of projects: PPP, public investment, projects with participation of legal entities, concessional, and private. The size of projects has varied from small to nation-scale. The time series of projects covered the period 1995-2015. Of the total project bulk, 900 have registered completion by end of 2015, of which 800 industrial. In the analyses of the dynamics of PPP projects, the additional data from the KPPPC regional offices has been used. The factors analyzed in finding most suitable PM methodology for a developing country, such as Kazakhstan, have been: the design and key task of a PM methodology, the nature of tasks, the scope of responsibilities of a PM methodology within a project, and its impact on powers of authority in an organization. The threshold of 57 percent has been set for a factor to be accepted as the key and most visible characteristic of each of the four chosen methodologies, as viewed by the respondent projects.

1. In comparing internationally adopted project management methodologies vs. those of Kazakhstan, the results have been revealed through the review of 3500 past and present respondent-projects. The aspects of the international vs Kazakhstan's PM methodologies have been reviewed and discussed in sections 3-6 of the paper. The outcomes of the analysis have been summarized in Table 3. In overall, the study suggested that PMBOK, P2M, PRINCE2 and MSF are applicable in Kazakhstan.



**Table 3.** Advantages and Disadvantage of Selected Project Management Methodologies

Methodology	Advantages	Disadvantages
<b>PMBOK Guide</b>	<ul style="list-style-type: none"> <li>- Systemic approach to project management;</li> <li>- Focus on project processes;</li> <li>- Availability of project templates;</li> <li>- Detailed description of each input-output based process;</li> <li>- Management over the life time of a project as well as a programme;</li> <li>- Wide recognition and practical application;</li> <li>- Support by MS Project.</li> </ul>	<ul style="list-style-type: none"> <li>- Too big to apprehend;</li> <li>- Excessive details relating to various aspects of projects that may happen in practice to specific types of projects only;</li> <li>- Complexities of implementing it in companies and organizations, and also, in small projects;</li> <li>- Does not present clearly defined requirements for privately owned projects;</li> <li>- Absence of methodological recommendations;</li> <li>- Adaptive methodology that may be specific to diverse areas of application, sizes and types of projects, timing, budget and quality constraints, is needed in addition to the commonly used PMBOK Guide</li> </ul>
<b>PRINCE2</b>	<ul style="list-style-type: none"> <li>- Focus on processes, procedures, and coordination of those that helps the project team in designing, execution and monitoring and control over the project;</li> <li>- Structured process-based approach oriented at product;</li> <li>- Flexibility in scaling it to any type of a project;</li> <li>- Flexibility in using depending on complexities of the project;</li> <li>- Division of processes into manageable and controlling phases with their inputs and outputs, targets, activities,</li> <li>- Easy management of the project for the reason that any deviations from the project plan are traceable;</li> <li>- Clearly defined methodologies on product-based planning, quality control, change control;</li> <li>- Availability of project templates that enable creation of an individual corporate standard;</li> <li>- Opportunities provided to reduce project risks;</li> <li>- Flexible for applying it for public investment projects and programmes;</li> <li>- Widely used in private sector along with the public;</li> <li>- Good governance experiences of applying in Australia, Belgium, Hong Kong, New Zealand, Poland, Singapore, Croatia, and South Africa.</li> </ul>	<ul style="list-style-type: none"> <li>- Absence of procedural guidelines on management of those processes that are out of the scope of the standard methodology, including on management processes for procurement, project stakeholders and others;</li> <li>- Opportunities provided to project managers to choose their own methods and approaches to project management, including on quality management;</li> <li>- Incomplete nature of the methodology;</li> <li>- Complexities associated with on-spot finding the relevant information relating to project documentation.</li> </ul>
<b>P2M</b>	<ul style="list-style-type: none"> <li>- Focus on enterprises and innovations.</li> </ul>	<ul style="list-style-type: none"> <li>- Focus on innovations, the area that has not been sufficiently developed in all developing countries to be able to apply the methodology;</li> <li>- Derives mainly from Japan's advanced realities.</li> </ul>
<b>MSF</b>	<ul style="list-style-type: none"> <li>- Provides IT-based readymade MSF project solutions;</li> <li>- Does not impose a strict hierarchical structure on the decision making.</li> </ul>	<ul style="list-style-type: none"> <li>- Dependency on IT solutions in project management;</li> <li>- Compounded impact of technical errors;</li> <li>- Power outages in some locations leading to low reliability in using IT-based MSF.</li> </ul>

2. In analyzing the bulk of Kazakhstan’s projects, the main features of the local PM system have been discussed in sections 4-5 of the paper and revealed as follows:
  - Non-systemic;
  - Incoherent;
  - Disconnected;
  - The gap in training of technical personnel and engineers for the local industrial sector
  - The need in applying OECD standards with the aim of fulfilling 5 key institutional reforms;
  - The need to develop smart technologies, artificial intelligence, integration of cyber-physics systems, project designing, and
  - The need to dissipate power of authority amongst peer groups.
1. The existing working environment available in Kazakhstan as a background for implementing the PM methodologies has been discussed in section 4-5 and revealed as follows:
  - Amongst the PM methodologies, used in practice in Kazakhstan, PRINCE2 has been most commonly applied in the public sector
  - Availability of the trained staff on PRINCE2 mainly in the public sector
  - Existence of the past PM practices upon implementing nearly 800 industrial projects at country level.
1. The review of world’s most popular national PM standards, as reflected in sections 3-4, to see whether those of Kazakhstan have missing links vs. national standards of other countries, has revealed the following:
  - Absence of a systemic approach to project management due to sporadic, incoherent, non-systemic nature of the local project management system;
  - Absence of interlinkages between and within projects;
  - Low professional profile of project handling personnel;
  - Lack of training on the PM.
2. Through discussing the details in section 5 of the paper, the study revealed both, harmonized features and flaws, in the national standards on the PM methodology, as reflected in Table 4.

**Table 4.** Harmonized Features and Flaws of Kazakhstan’s National Standard on Project Management

Methodology	Harmonized features	Flaws
Guidance on project management ISO 21500:2014	<ul style="list-style-type: none"> <li>- Focus on project owner’s requirements;</li> <li>- Base model has been PMBOK Guide. The 95% of the content of the Guidance has been derived from the PMBOK Guide and only 4 processes differ in content, including lessons learned, definition of the organizational structure, communications management and resources management;</li> <li>- Availability of a process “interested persons and changes”;</li> <li>- Base line knowledge areas in the Guidance have been simplified and are provided common access to end users;</li> <li>- The Guidance is harmonized with other standards of the following ISO series: ISO 10006-003, ISO 10007:2003, ISO 9001:2008, ISO 31000:2009, ISO 9004:2009.</li> </ul>	<ul style="list-style-type: none"> <li>- Does not provide detailed guidelines on the programme management and project portfolio;</li> <li>- Systemic management and coordination of activities pertaining to an organizational management is reflected in the framework of project management;</li> <li>- Insufficient quantities of the documentation that are provided common access;</li> <li>- Too complex for the use by small projects;</li> <li>- Does not serve the basis for certification of the system of project quality management of an organization.</li> </ul>

3. In analyzing the huge amount of decrees, laws, strategic documents and formal proceedings of central and regional government entities, the study revealed Kazakhstan’s requirements for the PM methodology in order to ensure the fulfillment of the following objectives:
  - By using the PPP mechanisms, to increase by year 2020 the quantity of investment projects twice their annual number
  - To increase the number of the region-scale programmes relating to the PPP development to at least 16, in total
  - To increase the number of the PM-certified professionals to at least 150 persons per year
4. By summarizing the details reflected in sections 1-6 of the paper, the most urgent needs on Kazakhstan’s PM methodology, have been revealed as follows:
  - Development of a comprehensive systemic approach to the PM in the public and private sector.
  - Introducing a reliable system of
4. To facilitate the formation of the sustainable PPP project pipeline
4. To provide continual guidance on the development of the contract-type PPP projects.

interdependencies within the PPP projects as well as amongst the nation-scale projects in the framework the national industrial program.

- Organizing professional training on the PM in the public sector, to certify at least 150 project managers, annually.

The acuteness of this paper is in identifying the absence of a comprehensive approach in a developing country to varied PM methodologies. In chase of new technologies, developing countries underscore the need to develop a common comprehensive approach before they implement various PM methodologies, in a systemic manner. For that reason, the paper reviewed globally popular PM methodologies to match them with local needs of a developing country such as Kazakhstan. Else, the research found the missing link in Kazakhstan's PM methodology - the absence of a system comprehensive approach to the PM at country level. Likewise, the absence of a specific PM methodology for PPP projects has been identified. The latter are important since they are the vehicles of economic growth. The prospective development of a PPP specific PM methodology may be useful for developing countries worldwide.

## RESEARCH METHODOLOGY

In preparing the paper, the descriptive methodology has been used. The study analyzed the data provided by the Electronic Government of the Republic of Kazakhstan, including the provision of the requested documentation by 13 central ministries, National Bank of Republic of Kazakhstan. The study also derived the support, upon requests for the legislative documentation, from the Supreme Court of Kazakhstan and General Prosecutor's Office, as well as from the Electronic Portal of the Ministry of Justice.

The study reviewed relevant normative acts, legal statues and regulatory legal acts, pertaining to the Laws on PPP projects, on the PPP, the public sector, the private sector, on the concessions, on the corporate laws, and others, as required by the paper. In this regard, the study availed of the use of the Internet Database Resource of the Ministry of Justice of the Republic of Kazakhstan.

The study screened through the archives of the government, especially, pertaining to the formal transcripts, notes, overviews, information reviews, press-releases of the formal meetings, forums, conferences, round table discussions relating to the issues of the project management and PPP projects in Kazakhstan.

## CONCLUSION

Project management is the legitimate approach to the process of managing projects. It is indispensable for public and private sector projects realization. Amongst various types of projects, the PPP projects stand afar. It is because of the specific nature of their ownership, which combines both, the public and private partners. For that reason, the PM of PPP projects requires a special methodology reflecting specific requirements of PPP projects. Currently, various international guides exist. They have been issued by some international development

organizations as a practical help to PPP project managers. However, those are often confined to the interests of the founder-countries whose aims and objectives may change over time. Against this background, the need for a PM methodology for PPP projects is acute. It may be issued under the auspices of the Project Management Institute, the central international authority for all aspects relating to the PM.

The study examined the PM methodologies, in current use in Kazakhstan and noted that application has been sporadic, non-systemic, incoherent, and characterized by the low level of practical utilization. As a remedy, the study suggests introducing a systemic approach to methodologies by matching most favorable features of PM methodologies to most urgent local needs. At the same time, the study found that the space for applying the PM methodologies, enabling a common systemic approach, is enormous. To that effect, the paper revealed that there is a critical mass of opportunities for training, consulting, and advisory on the PM, to step in.

The paper asserted that training and certification of project personnel to implement PPP projects is not the sole factor in strengthening Kazakhstan's public and private sector. The study pointed the importance of maintaining, consolidating, and sharing every experience, expertise and knowledge on the PM across the public and private sectors. The paper stated that the build-up of the institutional knowledge relating to the PM on PPP projects will be critical, especially in ensuring sustainability and inclusivity in this area. The paper concluded that Kazakhstan's organizations, companies, and relevant economic and social entities, currently dealing with PPP projects, must adopt the PM Methodology on PPP projects. Such methodology should advise on all aspects relating to PPP projects.

### *Limitations of the Study*

To provide all findings reflective of Kazakhstan's PPP projects, the study should have sampled those by levels of execution across the country. However, the limitations stemmed from ownership rights of the PPP projects parties, as well as external parties to the national scale public projects. Therefore, the study mainly relied on the documentation and data to which access has not been denied.

### *Recommendations:*

The study noted that PPP projects are drivers of economic growth. For their success, the PM methodology, specific for PPP projects is needed. Further, the common database relating to all aspects of PPP projects may be formed. Standardization of private business processes and those of public sector projects needs to be fulfilled through a common approach, accounting for private and public interests. The study confirmed that parallel implementation of diverse PM methodologies needs to be handled in a comprehensive systemic manner. It found that training and talent growth on the PM of PPP projects is equally required, especially in a developing country. At country level, this study recommends that a common PM Methodology for

PPP projects be released, preferably, under the auspices of the Project Management Institute. Such special guide on the PM for PPP projects must be accessed by multiple end users with due account of the interests of both, the public and private sectors.

The study will be used widely by governments, executing agencies, central executing authorities, *think tank* network under the coverage and impact area of the KPPPC, project managers, private businesses, students, academia, public service officials, multiple end users and public-at-large.

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