

The promotion of the programmer management with the transformation of the structure and adjustment of the function

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Abstract. This paper aims to research the critical factors affecting successful programme management, namely the management concept, organizational structure and management function that match programme management. By analyzing the existing definition of programme, and compared with project management, this paper puts forward a new definition based on the characteristics of programme management. In composition, the programme includes both multiple projects and management affairs without project form but closely related to programme management, and in objective, it both attaches importance to the achievement of ultimate goals and focuses on enhancing the capability to manage programme in the management process. In accordance with the desired objectives of organizations, the programme can be divided into strategic and tactical types, and this paper gives the corresponding structure model and function setting based on the characteristics of different programme. Top programme manager's concept and capability in management are very important for successful programme management, and great attention should be paid to the management risks caused by the concept inconsistent with the characteristics of programme management. Organizations can achieve the ultimate goals only by adjusting their organizational structure and function, adapting to the characteristics of programme management and improving their capability to manage programme under the guidance of correct concept.

Keywords: Programme Management; Organizational Structure; Function; Concept.

1. Introduction

After entering the 21st century, the economy has been keeping sustained growth, and continuously improved market environment and good expectation for future economic situation stimulate enterprises' great ambitions, making managers constantly exploit markets and develop enterprises in the form of project. For example, one domestic sizeable construction enterprise has 80 to 100 projects each year, including industrial and civilian construction projects, large-scale public works and communal infrastructure construction projects. The contract value of each project varies from tens of millions to hundreds of millions, and the total yearly output value of these projects, distributed through more than 20 provinces, reaches over 20 billion Yuan. Enterprises are increasing their projects and expanding their scales, but how to successfully manage so many projects to make them make due contributions for organizations has become a realistic question for top managers.

The same question is found both in construction enterprises and in real estate enterprises, IT industry (such as software development), shipbuilding enterprises and venture capital firms, and the common characteristic of these enterprises is that company business is established and embodied on project level directly. And in order to achieve the strategic objectives of organizations, these enterprises face the common question that how to manage relative programme in a unified way.

2. Programme Management

Enterprise strategy needs to be supported by multiple projects, but with expanded project scale and increased quantities, managers in old project management framework are apt to delay information

acquisition and processing, postpone decision-making and weaken control, making projects difficult to reach the expectation in time limit, expenses and other objectives, and ultimately causing bad influence on the successful implementation of enterprise strategy. In order to solve these problems, some scholars and research institutions put forward the concept of programme management.

2.1 The Concept of Programme Management

The definition of programme management made by Ferns was that programme as a coordinating mechanism for projects that enabled otherwise unrealizable benefits to be extracted^[1]. Pellegrinelli proposed his own definition based on that of Ferns: a program as a framework for grouping existing projects or defining new projects, and for focusing all the activities required to achieve a set of major benefits^[2]. Lycett and Burke defined programme management as the integration and management of a group of related projects with the intention of achieving benefits that would not be realized if the projects were managed independently^[3-4].

The knowledge of project management research institutions on programme management is mainly to coordinate projects and relative activities (lack of project form). Project Management Institute (PMI) held that programme management as the centralized coordinated management of a group of projects to achieve the programme's strategic benefits and objectives^[5]. The Association of Project Management (APM) defined programme management as the "coordinated management of related projects, which may include related business as usual activities that together achieve a beneficial change of a strategic nature for an organization"^[6]. The latest version of *Managing successful programmes* published by the Office of Government Commerce (OGC) defined programme management as the coordinated organization, direction and implementation of a portfolio of projects and activities that together achieve outcomes and realize benefits that are of strategic importance^[7].

The definition of programme management is controversial both at home and abroad, and different definitions have different emphases. To conclude, these definitions have a lot in common: programme is composed of related projects; the projects composing programme shall be coordinated and managed; programme management gains additional benefits. While the main differences between these definitions refer to: programme includes some daily routines or activities; the elements composing programme shall have a unified objective which is always strategic. The diversity of the definition of programme management is understandable, and even mature project management also has a lot of different representations. It can be found by analyzing these definitions that the main task of programme management is often defined on the level of project coordination. No doubt coordination is an important task in programme management, but it is a clear mistake to understand the objective and heart of programme management as project coordination. The real heart of programme management is to make enterprises get, develop, maintain and enhance some ability, because they, after having this ability, can gain expected benefits through successful programme management.

It should be noted that some scholars and institutions studying project management over a long period of time tend to understand programme management as an expansion of project management, and solve complex problems occurred in programme management by adapting, limiting or expanding the theories and methods of project management, such as multi-project delivery, multi-stakeholder, project cooperation, resource sharing and etc. Compared programme management with project management, it can be found that there are a lot of differences between them (see Table 1).

It can be found that programme has high uncertainty and fuzziness at the beginning, but with many interested organizations with different expectations, its scale is much larger and internal boundary is much more complex, and its objectives, range and methods are adjusted according to changeable external environment^[8-9]. The characteristics of programme management are as follows:

Programme is a framework or structure, without time limit or certain time limit.

Programme management is a means to enhance management ability, focusing on fostering individual and organizational abilities.

Programme management is closely linked with internal and external environments, not a set of universal principle and process with transitivity. In programme management, managers need to pay

special attention to the changes of external environment and strategic objective, and respond to these changes, rather than pursue fixed objective and scale.

In conclusion, programme management can be defined like this: in order to enhance the abilities of organizations, coordinate and manage related projects (including some relative routines and activities) to achieve the benefits that cannot be gained by single management.

Table 1 Comparison Table Between Programme Management and Project Management

Category	Project Management	Programme Management
Objective	Fixed objectives (deliverable product or service)	Vague objectives (strategic objectives or benefit expectation)
Environment	Internal and external environments easy to be recognized	Changeable external environment and complex internal boundary
Life-cycle mode	Linear life cycle	Uncertain life cycle
Managers' function	Achieve the success of projects	Achieve the objectives or benefits of organizations
Time and range	Certain time and range	Uncertain time and vague, changeable range
Stakeholder	Limited stakeholders	Complex internal and external stakeholders

2.2 The Classification of Programme

Different breakthrough points from different classification methods and categories. Fems in accordance with the component characteristics of programme divided it into business-cycle type, strategic type and single-objective type^[1]. Pellegnelli, whose classification was the same as that of Fems, divided programme into portfolio type, goal-oriented type and heartbeat type^[2]. Gray divided programme into loose type, strong type and open type in accordance with the relation between the projects composing programme^[10]. Reiss, according to the cognition degree of organizations on programme, divided it into operation type, middle type and inexperienced type^[11]. This paper from the standpoint of the function setting and the overall objective to be achieved of organizations on programme management divides programme into tactic type and strategy type. Tactic-type programme includes resource combination type and maintenance-improvement type, while strategy-type programme includes strategic orientation type and megaproject type, as shown in Figure 1.

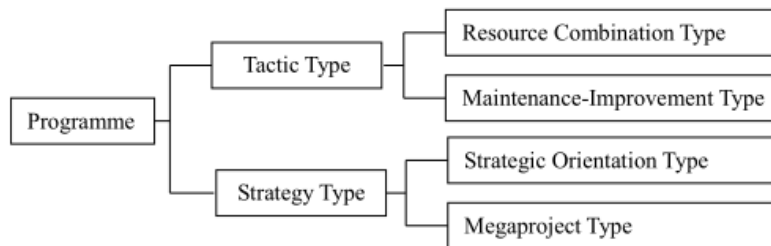


Fig. 1 Classification of Programme

2.2.1. Tactical Programme. Tactic-type programme refers to coordinating and managing programme under the guidance of corporate strategy for some characteristics of a set of projects to achieve local optimization and increase the profits of organizations.

(1) Resource Combination Type. Due to the stimulation from external environment, enterprises focus on soliciting projects continually, taking into less consideration their resource capability. When the resource demand of all projects exceeds the total resources that enterprises can acquire, it is inevitable that the operation of partial projects goes wrong. Under the environment of resource strain, the single project managers within system instinctively strive for more resources on their own interests to guarantee the achievement of project objective, which aggravates the lack of enterprise resources, the confusion of distribution and the inefficiency of use, ultimately reducing enterprises' overall interests.

The resource combination type of programme aims at the efficient use of resources. The projects in the combination both can be the similar ones with strong relevance and can be the different, relatively independent ones, and both need the same limited resources. This type of programme management has little influence over the original linear relation of organizations, and focuses on coordinating

customers, project managers and functional managers as well as the relation between them. However, this type of programme span is short due to its component nature, therefore, if new combination can bring larger benefits, this means that the life of original programme ends and new life starts.

(2) Maintenance-Improvement Type. The net profit rate of domestic construction enterprises has been in a low level, averagely less than 4%^[12]. Although the causes include imperfect construction market, unsound tender procedure, bid procedure and laws, the extensive management within the enterprises is a unavoidable problem. Therefore, enterprises need to continually improve their internal management and adapt to market environment to enhance their competitive power and profitability.

Establishing the maintenance-improvement type of programme aims at improving the existing system, optimizing the key business and procedure, and increasing or promoting the system function to acquire the increment benefits. When programme management framework doesn't exist, the functional department is usually responsible for the tasks above, but this approach lacks integrity and continuity, which influences the effectiveness of implementation. The maintenance-improvement type of programme, which integrates the various needs of enterprises, projects and customers and accepts or refuses these needs from the angle of enterprises as a whole, summarizes the needs accepted as a clear definition with internal consistency, and realizes these needs through multiple projects based on feasible technique and effective operation. This type of programme can be perpetual, and its implementation process can be gradual, thus enterprises can enhance and strengthen their system capacities under the balanced state of change and stability.

2.2.2. Strategic Programme. Strategy-type programme mainly refers to taking such measures as deployment, command, coordination and protection for multiple projects in order to achieve the strategic objective of organizations so that organizational ability can be enhanced and its strategic benefit can be realized.

(1) Strategic Orientation Type. Enterprises are affected by external environment, and their strategies are also adjusted with such changes. For example, with the changes of domestic economic situation and policy, the diversification strategies are adopted and deployed in municipal administration, communications, real estate and other industries to spread risks and expand earnings. Such strategies are fuzzy and directional at the beginning and uncertain in time span and deliver result. However, the projects implementing such strategies require certain time, scope and deliver result. Therefore, the conflicts of the directionality of such strategies and of the certainty of such projects usually lead to inefficient strategic implementation and even failure.

Establishing the strategic orientation type of programme aims at minimizing the contradiction between strategic formulation and project implementation, integrating the institutions and resources of enterprises, managing projects dynamically and enhancing enterprises' reaction speed to cope with changes, and to the utmost extent guaranteeing the successful implementation of corporate strategies. On the whole, this type of programme plays the organizers and customers of all projects in the system, and the operating mode is similar to a project. The strategic orientation type of programme will adjust the original structures of enterprises greatly, such as changing or replacing the power of partial functional departments, and establishing the trans-department workflow. The life cycle of such programme continues to vary with strategic implementation, for example, its life ends when strategic objectives are achieved, and produces when new strategic objectives are implemented.

(2) Megaproject Type. Megaproject, which is not clearly defined academically, is common in describing the projects with long time, large investment and far-reaching influence in infrastructure field^[13-16]. It is difficult to control the megaproject in cost, time limit and other aspects^[14-15]. One international research shows that the over-expenditure of 90% of projects is between 20% and 44% in 258 different large infrastructure projects. The European Commission ever many times reported that the traffic networks through the Europe were delayed again and again in time limit, including 30 preferential construction projects with a total investment of 600 billion euros^[16].

The megaproject consists of the multiple subsystems and subprojects that its objectives decompose, and implements management in the form of programme. Through the consistency and coordination of multiple systems and projects in definition, plan, performance and evaluation, it strengthens

organizations' control force to achieve the overall objectives and enhances their timeliness and effectiveness to cope with such external environmental changes as policies, markets and stakeholders. Compared with the strategy-type programme, the megaproject type of programme has clear objectives and deliverables, but it is small in adjustment range and weak in flexibility when coping with changes.

Generally speaking, the strategy-type programme is generated by the problems inside organizations, while the tactic-type one is produced by the needs outside organizations. Of course, the division between the tactic-type programme and the strategy-type one is relative. The correct knowledge and understanding of organizational strategies allow the tactic-type programme to keep a right direction all the time; and the coordination, control, optimization and other methods for projects are the important means for the strategy-type programme to achieve objectives. Using what type of programme depends on the objectives, needs and abilities of organizations.

3. Organizational Structure of Programme Management

Managers often adopt the method of ratio extension project management during programme management, such as ratio extension planning management, increasing control node and expanding resource quantity. The advantage of this method is that it lasts the procedure and experience of project management, while its disadvantage is that it easily causes the following problems: management work tends to be complex, bureaucratic and over-controlled; the ability to cope with constantly changing business driving force, objective and strategy is limited; the mechanized management concept is unable to perceive and improve the flexible problems arising from programme management. Therefore, in order to avoid these problems and effectively manage programme, it is necessary to adjust and change organizational structure and function.

3.1. Programme Management Office

Programme management, not a simple extension of project management, needs an integral control and coordination, or else it will have adverse influence on effectiveness and efficiency. In addition, it also needs a centralized control unit called programme management office which is responsible for the centralized management and coordination of all projects within its control range and whose main functions are shown in Figure 2.

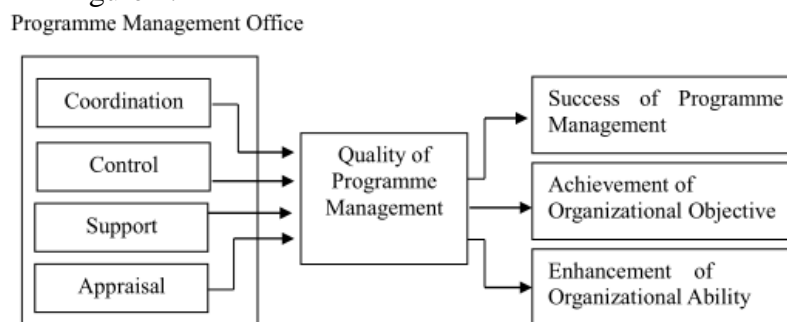


Fig.2 Chart of programme management office function

(1) Coordination role: Allocate limited resources, improve resource utilization, strengthen resource implementation, and ensure rapid resource distribution to minimize the failure of resource distribution. Solve coordination problems of multi-project and trans-department, assist to distinguish and define the internal relations between projects to reduce the frequencies of working accumulation, reworking and delay, and reduce the times of rebuilding management due to lack of interface management between projects. Resolve the conflict between project management and linear management and the power struggle, and mediate between project managers to improve the cooperative quality of cooperation partners.

(2) Control role: Establish a stable, effective information transmission mechanism to collect, build and update the information in programme and to form an information bank, and provide concrete, accurate and real-time contents to support correct decisions. If necessary, managers can build information trust and promote information sharing with stakeholders in a cooperative manner. Enhance the relation between organizational strategies and management activities of implementing

these strategies, break up strategic objectives into projects, and ensure more systemic and objective project definition to reduce the probability of project failure and high risk tolerance. Provide higher management transparency for top managers, and better supervise and control the implementation. And provide a feasible framework to adjust the strategies and projects under implementation and to cope with the changing business environment.

(3) Support role: provide services for projects and their managers, enhance managers' and participators' technical levels, and reduce mistakes in cognition and method. Promote the accumulation and spread of organizations on knowledge and the standardization of project management and operation method to enhance the success rate of implementing efficiency and completing projects. Promote and form the organizational culture suitable for programme management.

(4) Appraisal role: Focus on the expected direction and benefits of programme, and choose correct, feasible method to distinguish and appraise the benefits achieved within and without its life cycle. Attention should be paid both to the benefits of funds form and to some intangible, unmeasurable benefits, such as enhancing customer satisfaction, reducing error probability, improving workload and work capacity, increasing the flexibility of work force, saving operation expense, and accelerating training process. When the expected benefits of programme cannot be broke up into and distributed to projects directly and clearly, managers should choose a reasonable method to check and appraise these projects.

Programme management office, which plays an important role in programme management, may cause conflicts and contradictions with project managers or functional managers when exercising its functions. In order to avoid the diffusion of value creation activities and abilities, programme management office needs to handle these relations in a respectful manner, and tries not to exert pressure to save from a tense relation. Moreover, the structure of programme and the power of the office depend on the correlation degree and characteristics of projects as well as wide organization character.

3.2. Organizational Structure

In accordance with the different positions and functions of programme management office in the organizational structure of programme management, this paper divides the organizational structure into tactic type and strategy type. Organizational structure of tactic-type programme management;

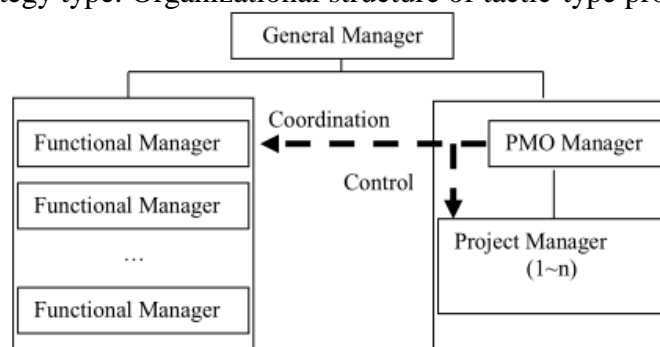


Fig. 3 Organizational structure chart of tactic-type programme

Taking the characteristics of tactic-type programme management into consideration, such as clear objectives, expected earnings easy to be measured and appraised and small adjustment range in response to changes, and comprehensively weighting its organizational level and span, its organizational structure is shown in Figure 3. From the lateral section, the programme management office is responsible for coordinating with other functional departments on affairs conducive to successful programme management and reporting to general manager on its work. From the longitudinal section, the office is responsible for directly managing its projects, optimizing the distribution of resources and mediating the contradictions between projects to provide supports for the successful implementation of projects. Project manager directly reports its work to the programme management office which is in charge of the successful implementation of programme.

Organizational structure of strategy-type programme management;

In strategy-type programme management, the strategic objectives of organizations are often obscure and incomplete, their implementation methods are also changeable with environmental changes, their expected earnings are difficult to be forecast, and they need control and certain flexibility. Under such a circumstance, in order to avoid the confusion of responsibilities caused by the decentralization of power and too many requirements on managers and enhance the effectiveness and efficiency of programme implementation, it is necessary to set up an integrated and powerful centralized control unit to complete the four main tasks including coordination, control, support and appraisal. The organizational structure of strategy-type programme management is shown in Figure 4. The programme management office lays out the strategic objectives comprehensively to determine the implementation methods and action tactics. From the lateral section, the office can mobilize resources of each department, and allocate and optimize these resources according to the priority of projects. From the longitudinal section, the office is in charge of dividing the objectives, defining the priority, analyzing the constrained relation and interface, and launching and ending the projects. Moreover, the office also needs to monitor and appraise the programme dynamically during the implementation, bring the implementation of programme into correspondence with the objectives throughout, and analyze and evaluate the earnings received.

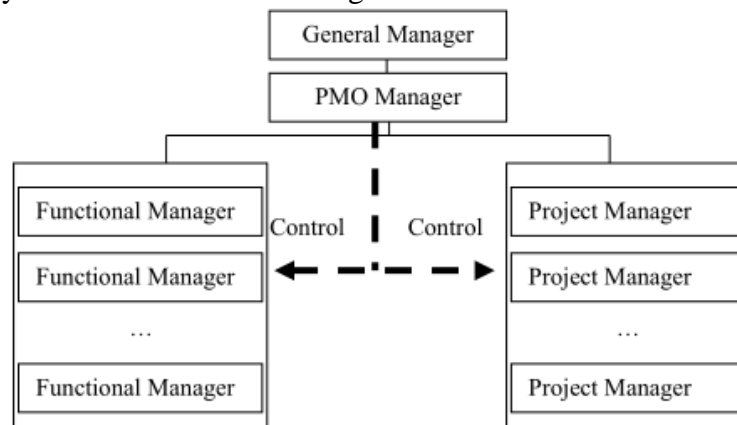


Fig. 4 Organizational structure chart of strategy-type programme

3.3. Programme Manager

The programme managers in this paper refer to the practical leaders in the programme management. They are endowed with important tasks, and their management behaviors are related to planning and resource management, trace and control, change management, risk and benefit management, stakeholder management and etc. These management behaviors look like those of project management, but compared with the entity, fixed objective and stable level and structure defined in project management, the objectives of programme management change with the adjustment of strategic objectives, and its range and procedure also vary.

Programme managers may meet more complex relations than project management, including the relation with programme management work, the relations with programme management teams and project management teams, and the relation with programme management environment, and the effective programme management is based on these relations^[17]. The programme managers both need to handle affairs, and create an environment which allows project managers to succeed and promotes support from shareholders. Of course, the capacities that programme managers have support them to effectively manage programmes. After analysis, interview and investigation, David Parrington and Sergio Pellegrinelli came to a competency model including 16 capability elements^[18]. From the point of view of statistics, if programme managers want to be competent at programme management work, they must have 6 capabilities: Sense of ownership/mission, Political awareness, Relationship development, Strategic influence and Interpersonal assessment and Action orientation. The programme managers' abilities, the relations to be handled and the relations between successful programme management are shown in Figure 5. Programme management, lying between strategic management and project management, has high requirements on managers' abilities, that is, managers need to link individual reputation with interpersonal skills, must have in-depth understanding of

formal and informal organizations, and need to have great knowledge of strategic background. Although leaders from many organizations try to directly promote excellent project managers to be programme managers, the results prove that this method is unreliable. The instincts that excellent project managers acquire through several years of experience have an exactly opposite effect in programme management. For example, experienced project managers tend to seek and rebuild some simple, clear planning methods and implementation environments when managing complex strategic programmes, which no doubt limits the programme management.

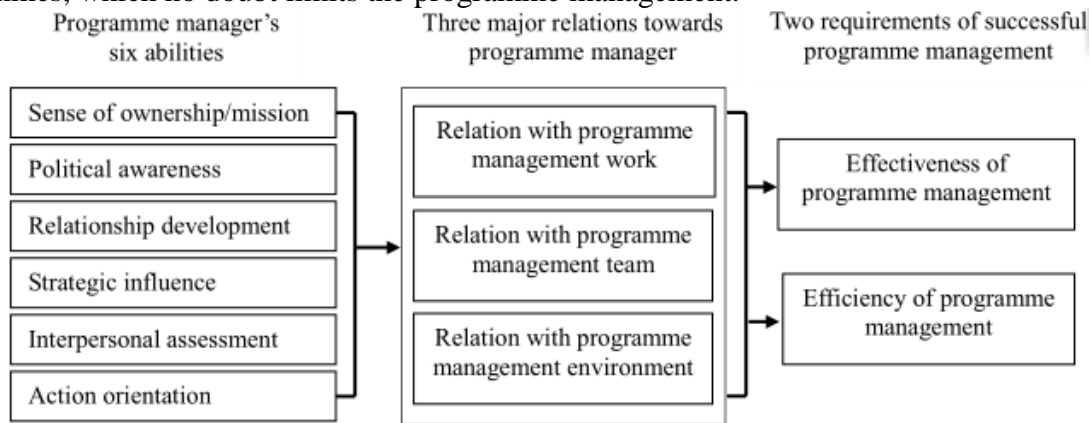


Fig. 5 Relation chart of programme manager’s ability and function

Through hard and thorough search, it can be found that programme manager’s capacity and method are affected by his/her management concept which includes two categories: one is the low-order concept based on the idea and practice of project management; and another is the high-order concept in line with the thread and method in strategy and leadership areas. Before being promoted to a programme manager, an excellent project manager must establish the correct high-order concept in line with programme management, expand his/her existing scope of knowledge and theory of management and improve his/her ability to manage programme through learning and training. Or else, the programme manager having the low-order concept will be the huge obstacle for successful programme management, and is affected by such concept when setting company expectancy and performing management behaviors, so that those management behaviors guided by the high-order concept are not approved and awarded, and are even regarded as improper, wasteful and destructive ones.

4. Conclusion

Traditional strategic management focuses on the environmental analysis, the establishment of organizational capability and the strategy formulation at the corporate level, lacking studies on strategy implementation, especially on how to organize strategy through project implementation. Strategic management focuses on directivity while project management focuses on implementation, and the separation between strategy level and implementation level is always an important problem that project organizations face. This problem becomes more pressing due to rapid environmental changes, and the interaction between the external environmental changes caused by customers, competitors, shareholders and other stakeholders and the internal environmental changes caused by adjustment of organizational development strategy, transfer of organizational structure and staff and change of corporate culture and management style poses a huge challenge to the implementation, survival and development of organizational strategy.

The basic solution is to manage projects from a high level and establish programme under the guidance of organizational strategy to set up a bridge between the organizational strategy and project implementation through which managers integrate company and project procedures, optimize resources, and enhance the ability to cope with changes and to implement strategy, maximizing the organization value. The theory of programme management is still under development, and its theoretical system and approach remain to be improved. Affected by the ineradicable concept and

approach of project management, “multi-project management”, “program management” and other wordings, various definitions made by domestic and foreign scholars and research institutions, as well as orientations in management mode, organizational structure and organizational functions, programme management embodies varying erroneous tendencies during the implementation, weakening organizations’ ability to acquire benefits. Undoubtedly, it is a key for successful programme to establish a correct concept of programme management and adjust the structure and functions of organizations.

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