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## Research of power generation enterprise budget management based on the balanced scorecard

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### ABSTRACT

With the financial crisis haze slowly disperses, the global economy is slowly recovering. The economy will usher in a new round of development. To ensure the company's steady and rapid development, we must set a reasonable future development planning, establish effective budget management system, and specify the main objectives of the company. As we all know, a company must have a scientific and reasonable budget management system to ensure the achievement of budget targets for sustainable development. In recent years, with China's social and economic development, the power industry is also under marketization, and the competitive pressure is also growing. More and more power generation enterprises bring in budget management methods to enhance their competitive strength. But with the significant changes in the internal and external business environment, the traditional budget management can not meet the requirements of enterprise development. Otherwise, a more complete and comprehensive budget management system must be built to adapt to the development of enterprises. This research points out the characteristics of the overall management of the budget and the Balanced Scorecard features, analyzes the necessity of the combination of the overall management of the budget and Balanced Scorecard, introduces advantages and disadvantages of the overall budget management system based on it. The analysis of the current situation of China's power generation industry indicates the need of the introduction of Balanced Scorecard management system of China's power enterprises based on the overall budget. The basic framework of a comprehensive budget management system is built as reference for power generation companies in marketization.

### KEYWORDS

Budget management; Market; Power generation companies; Balanced scorecard.



## INTRODUCTION

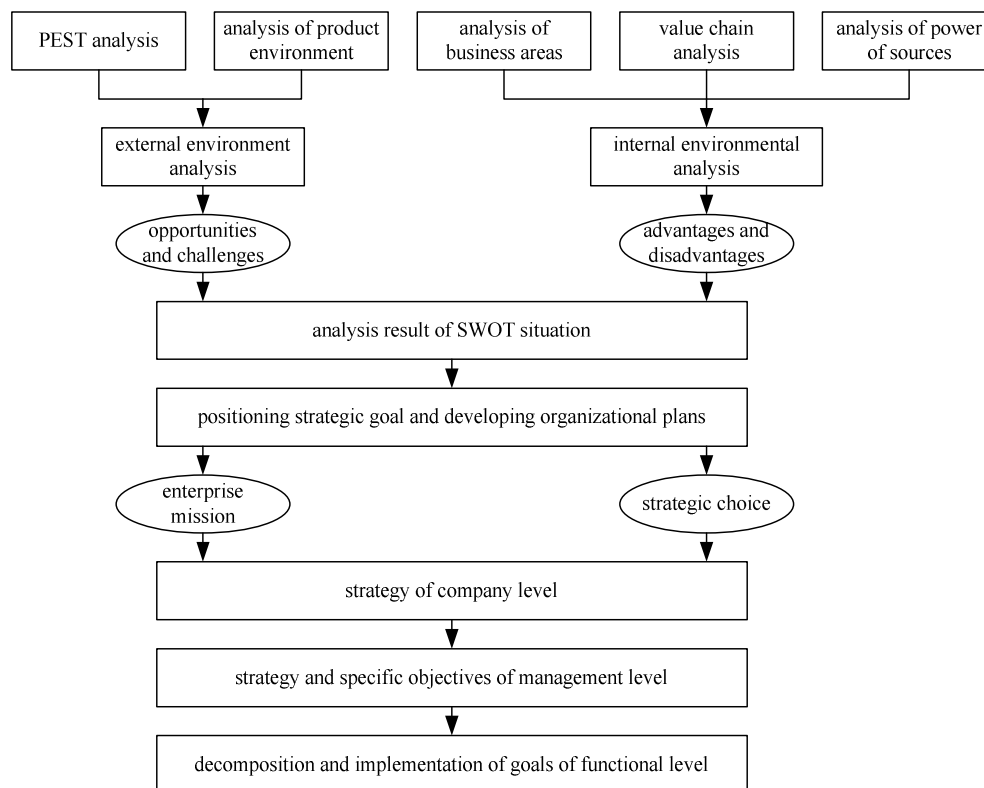
The global financial crisis has a great effect on global production, so many businesses are adjusting their own steps. With the global economic environment slowly getting better, it is critical for enterprises to build the future development strategy and budget, and reasonably predict the future direction of enterprises development, all of which are worth pondering. With the establishment of modern enterprise system, domestic and foreign enterprises have put budget management as an important part of corporate management model which is widely used. Budget management is generated based on the government budget. With the social and economic development, budget management has been widely used in the enterprise budget. For a long period of time it has been thought as a means for enterprises to implement management. But with the deepening of enterprise management and development, it is recognized not only a part of corporate financial level but also a part of the overall management of an enterprise. Power generation companies have single products, fixed assets of large proportion and simple working procedures, which means they are very suitable for the introduction of a comprehensive budget management. The introduction of a comprehensive budget management program will enable enterprises more standardized. Based on China's power industry development and management situation, the research combines the Balanced Scorecard and overall budget theory, analyzes the necessity of power generation companies to implement a comprehensive budget management, proposes design framework based on the Balanced Scorecard budget management mode and builds a comprehensive budget management system.

## INTRODUCTION OF RELATED THEORIES

### Overall budget management theory

Comprehensive budget management is the use of the budget for the various departments within an enterprise, including a variety of financial and non- financial resources allocated, assessed and controlled for each unit in order to effectively organize and coordinate the production and business activities and complete the established business objectives<sup>[1]</sup>. It is an comprehensive budget management with full participation. Enterprises can monitor implementation progress through budget, which contributes to controlling spending and forecasting cash flow and profit<sup>[2]</sup>. The biggest difference between the overall budget management and the traditional budget management is: the overall budget management optimizes the allocation of corporate enterprise resources with strategy, while the traditional budget management is only on the financial sector management.

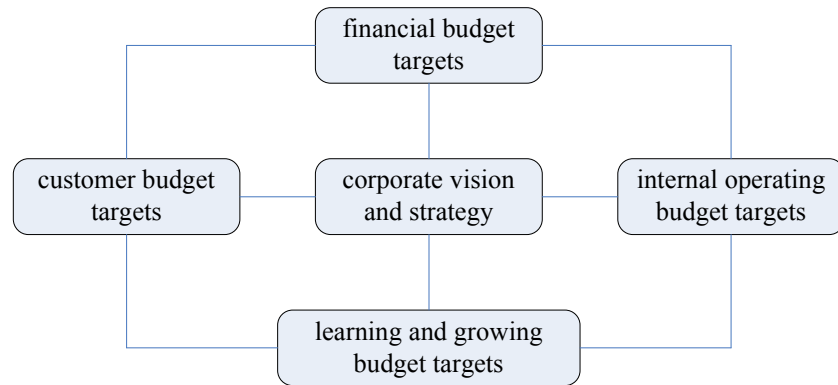
Comprehensive budget management enables enterprises to get all staff involved in the quantified management system, with a long chain management process, multilevel, a wide range of indexes, complex relationships and so on. As shown in Figure 1, the strategic plan for the organization's overall budget management flow chart, multiple links interaction, execution control and feedback adjustments constitute a sound budget management system.



**Figure 1 : Organizational planning strategy flow chart**

**Balanced scorecard**

In 1992, Harvard University teacher David Norton first raised the BSC (Balanced Score Card) in order to solve the traditional performance appraisal system emphasizing too much on the financial perspective. BSC includes finance, customers, internal processes, learning and growth<sup>[3]</sup>. BSC, based on informatization, strategy, performance drivers and other factors, is a management system of various balanced development. After practice it was found that only the combination of BSC and business strategy can help corporate performance play a real role. BSC starts to get into the enterprise management protocols and becomes an effective method and management tool in strategic management. Figure 2 shows the Balanced Scorecard for content distribution, and TABLE 1-4 shows four interrelated and mutually supportive aspects of the Balanced Scorecard indicators. Balanced Scorecard covers a widely. Companies can design according to its own particular circumstances, development strategic objectives and prospect.



**Figure 2 : Relation of balanced scorecard content**

**TABLE 1 : Description of the financial indicators**

financial indicators	profitability	return on equity
		return on total assets rate
		capital maintenance and appreciation rate
		sales profit ratio
		cost margin ratio
	operating capacity	total asset turnover rate
		mobile asset turnover rate
		accounts receivable turnover ratio
	solvency	non-performing assets ratio
		asset-liability ratio
current ratio		
ability to grow	quick ratio	
	sales growth rate	
	capital accumulation rate	
	total asset growth rate	
	three-year average growth rate of profits	
	three-year average growth rate of capital	
	update rate of fixed assets	

**Combination of balanced scorecard theory and comprehensive budget management theory**

**Feasibility analysis of the combination of the two theories**

BSC and comprehensive budget management reflects the strategic thinking. Comprehensive budget management uses the corporate strategy as a starting point for enterprise resource budget management, and digitizes the strategic goal. The

balanced scorecard is a means of combining the corporate strategy and assessment methods. Its emphasis is the index system of strategic relevance. The overall budget management mainly dealing with coordinating planning, organization, integration and relations among each department. However, it has a certain gap between budget and actual result, while the Balanced Scorecard can narrow this gap. Therefore, the introduction of the Balanced Scorecard theory of budget management in the enterprise can better fulfill business goals, reduce the gap between the target and the actual result, and ensure the effective implementation of a comprehensive budget. As shown in Figure 3, for the overall strategic objectives integrated enterprise, strategic objectives are changed into various levels of the Balanced Scorecard. Then through key performance indicators, an action plan is developed. At last corporate resources are allocated. Thus Balanced Scorecard based on a comprehensive budget management system is formed.

**TABLE 2 : Description of client index**

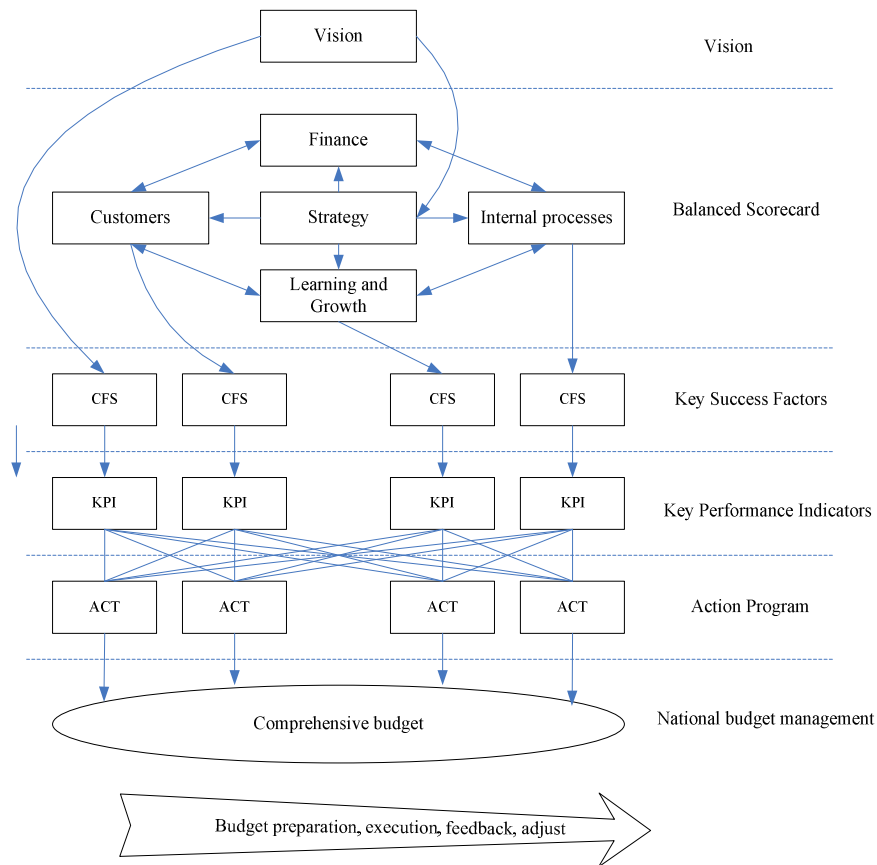
client index	cost	customer acquisition costs
		customer costs of sales
	quality	customer installation costs
		customer service costs
		quality control system
	timeliness	rejection rate
return rates		
loyalty of customers	on-time delivery rate	
	production cycle	
extent to attract new customers	customers returning rate	
	number of lost customers	
	customer retention costs	
market share	number of new customers	
	new customer ratio	
	cost to attract customers	
		percentage of total sales
		percentage of total products

**TABLE 3 : Description of the internal processes indicators**

internal process indicators	innovation process	R & D ratio of total sales
		R & D investment rate of return
		percentage of new product sales revenue
	Operation process	R & D design cycles
		unit product cost level
		cost level management organization
after-sales service process	production line cost	
	customer service error rate	
	smooth flow of business	
		service cost / time
		technical update cost
		customer complaint response time
		order delivery time
		speed of door to door service

**TABLE 4 : Description of the learning and growth indicators**

learning and growth indicators	quality of staff	staff knowledge structure per capita cost of full-time training per capita cost of job training annual number of hours of training average age of employees
	employee productivity	per capita output Per capita patent
	employee loyalty	customer awareness of employees employee turnover rate senior management and technical personnel turnover rate
	employee satisfaction	employee satisfaction staff promotion ratio internal manager promotion ratio
	organizational structure capacity	cost of establishing an evaluation and communication mechanism cost of coordinating sectoral action targets effective communication assessment assessment of the effectiveness of community work average time of conveying information or accepting feedback
	information systems	investment cost of the hardware system PC staff ratio update cycle of hardware and software systems



**Figure 3 : Balanced Scorecard based on the overall budget**

### **Meaning of building the overall budget management system based on balanced scorecard**

(1) The introduction of the Balanced Scorecard in a comprehensive budget management system helps to improve the original system. It not only retains the advantages of the original budget, but also enhances operability of the original system.

(2) Comprehensive budget management system based on the Balanced Scorecard can better implement the company's strategic objectives. Corporate budget management and strategy are closely connected, but in the actual business operations budget and business development still disjoint. That can be solved by introduction of the Balanced Scorecard. Enterprises use data to analyze future plans and objectives of the business operations, determine clear objectives of enterprises, promote contact within various departments, reduce conflicts between various departments, guide enterprises running in the right direction of development, enhance their market competitiveness, and receive the full realization of the company's strategic objectives.

(3) The introduction of comprehensive budget management system based on the Balanced Scorecard can reflect operating conditions of enterprises in the form of data. The data will be integrated into the corporate goals and become a aggregation of all business activities. The system is in charge of the procurement, production, marketing, profitability, cash flow and other items of the budget. It is the company's strategic plan and the core of the entire enterprise. The system bears the budget preparation, formation, execution, control, coordination, assessment throughout the entire business activities of enterprises.

### **Comprehensive budget management system based on the balanced scorecard**

Advantages: (1) It protects the consistency of corporate strategic goals and budget and strengthens internal communication. Budget management strategy has always been critical, so budgeting strategy is always a benchmark when making a budget. Besides when making strategies and goals it combines the situation of various departments of enterprises and helps to achieve the strategic objectives. (2) It balances short-term and long-term business interests. Comprehensive budget management, including long-term and short-term indicators, financial indicators and non-financial indicators, balances the long-term interests and short-term interests of enterprises. Budget management is not only just a short analysis of the data, but also the overall objectives of developing strategies to promote the combination of the result assessment and process control. (3) It protects the comprehensiveness of the overall budget. The introduction of the Balanced Scorecard analyzes enterprises from four levels, which fully reflects the strategic requirements and evaluation of enterprises and receives truly comprehensive budget.

Disadvantages: Balanced Scorecard covers more widely, which certainly will bring some problems in the implementation process. Balanced Scorecard is a global strategy focusing on business problems. It lacks some controllability of events that occasionally occur. Its analysis for other corporate competitiveness is not comprehensive. Besides, special case warning of enterprises is not perfect<sup>[4]</sup>.

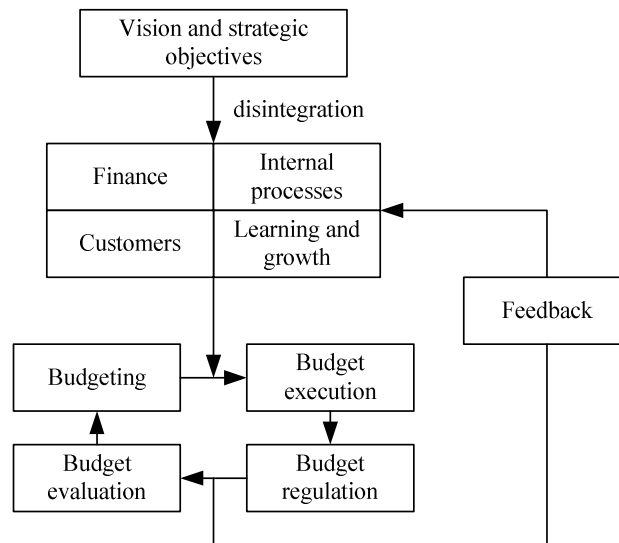
## **THE NECESSITY OF A COMPREHENSIVE BUDGET MANAGEMENT OF POWER GENERATION ENTERPRISES**

China's power system has always been a natural monopoly by the state -controlled industry. Because of its resource-based specificity, it must be controlled by the country in order to ensure a solid and rational use of infrastructure resources<sup>[5]</sup>. In 2002, in order to completely break the monopoly of the power industry, the state government brought in competition mechanism, set up two new power companies and five power generation groups, and establish the State Electricity Regulatory Commission for the supervision of electric power industry and electricity market. This major reform increases competition among enterprises. Power companies must continue developing and optimizing management systems, and constantly improve their competitiveness in order to protect itself not to be eliminated and gain long-term development<sup>[6]</sup>. In the market situation of the electricity industry, the power companies must introduce a comprehensive budget management so as to enhance their management level, optimize the allocation of resources, make strategic objectives of development, so as to enhance the core competitiveness of enterprises.

## **FRAMEWORK OF GENERATION ENTERPRISE BUDGET MANAGEMENT SYSTEM BASED ON BSC**

After the introduction of Balanced Scorecard in balanced budgets of the power generation business, in the preparation part it should be taken into consideration that in what way the enterprise strategy can be introduced into budget management. The enterprise budget management and corporate strategic goals combine to make full use of strategic management function of Balanced Scorecard<sup>[7]</sup>. Therefore, in order to achieve the integration of the company in the design the Balanced Scorecard must cover all levels of enterprises, including the loop runs of budgeting, budget execution, budget control, and budget evaluation. Figure 4 is framework of generation enterprise budget management system based on BSC. The framework combines strategic goals and budget through Balanced Scorecard, guides the strategic targets which make the budget go towards strategic direction. Through the allocation of resources BSC establishes enterprise budget targets and imported budget targets into the circulation system of budget management. After budget the cycle system sends information back to all levels of the Balanced Scorecard, thus forming a closed BSC and budget management system. This model is based on the company's vision and strategic objectives, combined with the growing power of the company's future core competencies. It helps to develop strategic objectives of power generation companies and target around the company's core

capabilities by overall budget of the power generation business, in order to protect the normal operation of enterprises and enhance the competitiveness of enterprises.



**Figure 4 : Framework of generation enterprise budget management system based on BSC**

## CONCLUSIONS

Electric power industry is under market oriented development. Facing fierce competition, companies must introduce a comprehensive budget management to enhance their management level, and optimize enterprise resource allocation so as to enhance the core competitiveness of enterprises. For the needs of power generation companies, this research conducts a concept analysis of comprehensive budget management and the Balanced Scorecard, and a feasibility analysis of a comprehensive budget management and Balanced Scorecard theory. It also introduces the meaning, advantages and disadvantages of comprehensive budget management system based on the Balanced Scorecard, analyzes the situation of China's power industry and proposes framework of generation enterprise budget management system based on BSC in order to make power companies optimize their budget management system and enhance competitiveness.

## REFERENCES

- [1] Yin Dongliang; How to implement business strategies by budget management [J] Finance and Accounting, (22), 61-62 (2009).
- [2] Qiao Ye, Chen Liangping; Budget model based on a comprehensive strategy map [J] Financial accounting, (6), 53-55 (2005).
- [3] Hu Ping; Balanced scorecard application in the design of corporate performance evaluation [J] China Investigation and Design, 9, 31-35 (2007).
- [4] Gan Zhongshu; Brief discussion on strategic budget management based on the Balanced Scorecard[J] China collective economy, 2, 47-48 (2008).
- [5] Yan Zhiyong; Reflections on China's hydropower development [J] Hydroelectric power, 34(12), 14-17 (2008).
- [6] Zhu Lianghua; Research of hydropower enterprise performance management system based on the balanced scorecard construction [J] Accounting and Finance, 5, 67-70 (2010).
- [7] Tang Binbin, Luo Bo; Brief discussion on the use of balanced scorecard in corporate performance management application in the water power generation [J] Water Science and Technology and Economy, 16(2), 200-202 (2010).