PERFORMANCE MEASUREMENT OF A RETAIL ELECTRIC UTILITY DURING A TRANSITION PERIOD: A CASE IN THAILAND

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ABSTRACT

Performance measurement of an organisation is essential but complicated. In many countries, a market structure of electricity supply industry has been changed. Market rules and regulations are set forth and new purposes are also determined. During a transition period, performance measurement of a retail electric utility is increasingly difficult because there are a lot of changes not only in components of the retail electric utility but in its environment as well. Because of changes in both components and references of a retail electric utility, the concept of relativity is applied to measure performance of the retail electric utility. An aim of this research is to study measuring performance of retail electric utility in Thailand. The results of the research demonstrate the framework of measuring performance of the retail electric utility in Thailand.

INTRODUCTION

A retail electric utility (REU) is the electric utility that provides electricity directly to the consumers. The REU produces outputs that (i) are invisible; (ii) involve high levels of customer relationships; and (iii) can be simultaneously produced and consumed [1]. It could be found as a functional unit of distribution part in a monopolistic environment. In a competitive environment, it separately emerges in many countries.

In a monopolistic environment, most of electric utilities perform their businesses in electricity supply industry (ESI) according to their functions, mainly defined by laws and regulations. Achievement of the public electric utilities can be defined as fulfilment of their objectives given by the government. In a modern deregulated ESI, rules, regulations and structures of the market have changed that can be considered as a paradigm shift. Stakeholders in the ESI are not only producers, deliverers, suppliers, customers and government agencies but also regulators, brokers, investors and shareholders. Electric utilities subsequently react to these changes in order to perform their jobs properly; improve their performance; and transform the whole organisation into a new environment.

Performance measurement of an electric utility is necessary to indicate the results of activities done but it is complicated. When the ESI is fairly stable and relatively unchanging, the complexity partly results from a lot of indicators required by stakeholders. During a transition period of the ESI deregulation, the existing and new indicators and a loosely-controlled or uncontrollable environment have to be taken into account in measuring performance of the electric utility. This makes performance measurement of the electric utility more difficult.

This paper shows a study – an applied qualitative research – that applies a concept of relativity to measure performance of the REU in Thailand during a transition period. This concept is integrated into the single framework of analysis that will be described by using data of the REU, a unit of measurement. Primary data are collected from people, events, and situations using observation, and unstructured interview. Secondary data in forms of, for example, annual reports, reports on other related projects, archival records are also gathered. Findings and implications drawn from literature and the case are made [2].

PERFORMANCE MEASUREMENT DURING A TRANSITION PERIOD

Measuring Organisational Performance during a transition period

Performance of an organisation refers to effects resulting from activities the organisation performed. Performance measurement reveals lagging indicators that indicate what happened in the past. Organisational performance can be measured from many different viewpoints. Objectives of performance measurement are depended on an owner of performance measurement programme.

A transition period relates to changes. When an organisation changes, it moves from a current state, then passes through a transition state, and finally reaches a desired future state. The transition period of time begins at the end of the current state and ends at the beginning of the desired future state.

Organisations in a placid environment are different from those in a turbulent environment [3, 4]. In a placid environment, goals and activities needed in a process of performance measurement are based on predetermined settings that are predictable and can be controlled. The rigid criteria of performance measurement can be applied to measure organisational performance. However, in a turbulent environment, the organisation has to respond to

changes so that it needs not only adjustable activities and goals but also changeable processes, structures, and technologies as well as adaptable people. When both references and units of measurement – things measured – change, the concept of relativity should be applied in a process of performance measurement. Criteria of performance measurement should be flexible in accordance with changes taken place during a transition period. During a transition period, desired measurement of organisational performance indicates what an organisation performed relative to its goals along paths of change. Goals that an organisation commits to meet in the future state should be used as references rather than goals that the organisation wants to reach in the current state. During a transition period, when an organisation moves along paths of change, goals are subject to altering. Performance indicators have to be in line with appropriate modified or newly-setting references.

The Framework of Measuring Performance of the REU During a Transition Period

In this research, a concept of a framework of performance measurement is intentionally developed for measuring performance of the REU in Thailand under ESI deregulation. Tasks performed during measuring performance, adapted and modified from the change flow chart of Balogun et al. [3], are shown as follow.

- Determine objectives of performance measurement
- Analyse goals that the organisation commits to achieve in the future state
- Analyse the organisational context
- Determine strategic paths
- Identify the priority of indicators and select appropriate indicators
- Evaluate indicators
- Compare indicators with strategic paths

Objectives of performance measurement are important to determine the meaningful success of a procedure of performance measurement. They reflect benefits obtained from a process of performance measurement. Each stakeholder needs specific aspects of performance for its own purposes. Goals that the organisation commits to achieve in the future state are used as references. The goals should be specific, measurable, achievable, relevant, and time bound. Being measurable of goals is especially needed for performance measurement. Contextual analysis reveals appropriateness of goals and a position of the organisation in relation to its environment. Strategic paths show a direction that leads the organisation to its goals. Each indicator should be set its priority because even though indicators have been considered appropriate and useful in a predictable and controllable condition, there is no guarantee that they still are during a transition period. Selected indicators are calculated and reveal their meanings. The indicators have to fit with objectives of performance measurement. Evaluated indicators are compared with the strategic paths. A result of comparison will result in a gap between desired and actual performance along the strategic paths.

THE CASE OF THE REU IN THAILAND

The Transformation of the Provincial Electricity Authority (PEA)

The PEA has been established by the Act since 1960 [5]. Three main objectives of the PEA are: (i) to continue to improve its provision and distribution of electricity to its customers; to achieve the highest possible level of sufficiency, efficiency and reliability in power distribution commensurate with safety practices; to meet the timely need of customers; and to keep pace with changing circumstances; (ii) to optimise its business processes and operations in order to be more profitable and thereby achieve sufficient revenues to facilitate further development; (iii) to develop its organisational structure, man power and resource management in order to achieve the highest level of efficiency and effectiveness. The PEA is considered as the REU [6].

In Thailand, a major problem affecting the operation and management of all three electric utilities is lack of efficiency in the organisational and human resources management [7]. This problem partly led to the Thailand ESI deregulation. In case of the PEA, the lack of operational efficiency may result from two major factors, i.e. the large organisational size with centralised management and the politicised management policy.

After a national economic crisis in 1997, the ESI deregulation was accelerated by the government. The PEA experienced with the first ever recorded net loss in its financial history [6]. Inevitably, the PEA has been rapidly moving from a monopolistic environment to a competitive environment. The PEA could not, by itself, go to the future state with fewer problems as possible. Subsequently, the PEA had awarded consultants contracts for various purposes in order to understand situations and smoothly move into a future competitive environment.

Measuring the PEA's Performance

Objective Determination

Performance measurement was conducted by many agents for different purposes. The Ministry of Finance (MOF) usually evaluates performance of the PEA in order to monitor and control a financial profile [8]. The results of assessment were used to make the national plan of state enterprise sector reform. The National Energy Policy Office (NEPO), now known as the Energy Policy and Planning Office, assessed performance of the PEA in operational, technical, managerial, and structural aspects. The PEA itself

evaluates its performance for its purposes of strengthening the organisational capabilities during a transition period. It can be observed during a transition period that (i) stakeholders pay more special attentions on the organisation than they used to do in a placid environment; and (ii) objectives of performance measurement reflect purposes of an owner of performance measurement programme.

Goal Analysis
Even though all performance measurement agents – the MOF, the NEPO, and the PEA – used measurable goals in a process of performance measurement, such goals did not reflect what the PEA commits to achieve in the future state. Results of performance measurement indicating what just happened were temporarily used to facilitate organisational change of the PEA. The results should be interpreted by comparing them with goals that the organisation commits to achieve in the future state. Putting goals that the organisation commits to achieve in the future state into a process of performance measurement is expected that it will contribute to risk reduction during a transition period.

Contextual Analysis
The PEA was treated: (i) by the MOF as only one of organisations among other state-owned enterprises; and (ii) by the NEPO as only one of organisations in the ESI. A context from the viewpoints of the MOF and the NEPO (e.g. political, social, and economic situations as well as economic growth of the country) is a general environment of the PEA. Two agents conducted PEA's performance measurement at the market, industry, and country levels. On the contrary, the PEA has devoted its efforts to strengthen its organisational capabilities in order to survive and grow in the future state. A dominant environment from PEA's viewpoint includes customers, suppliers, related government agencies, financial institutes, and employees. Contextual analysis of the PEA shows that there are changes in, for example, needs of customers, bargaining power of suppliers, interactions in new aspects of related government agencies, cooperation with financial institutes, and involvement of employees. In the outer context, national economic and social conditions still fluctuate; and the ESI deregulation is under uncertainty. The ESI structure was firstly designed as a Power Pool originated in the UK but currently it is in a transition period of changing to an Enhanced Single Buyers structure. Faced with both organisational and environmental changes, the PEA, in short, is in a turbulent environment.

Path Determination
Path determination of the PEA is not the interest of the MOF and the NEPO. The MOF and the NEPO focus on satisfaction of customers on technical services from the PEA. The PEA has to determine strategic paths leading to goal accomplishment. The strategic paths are related to customers, suppliers, related government agencies, financial institutes, and employees. In determining the strategic paths, two problems (i.e. a limitation of clear goals and strategies and an ill implementation plan) were observed. The first problem rooted in less awareness of importance of corporate planning that was in hands of the middle management rather than the top management. The second problem reflected a passive and ad hoc style of work implementation of the PEA which has run by the state for about 47 years.

Indicator Prioritisation and Selection
In cases of the MOF and the NEPO, specific indicators were identified and PEA's performance measurement was accurate and precise enough to fulfil objectives the MOF and the NEPO. However, the PEA experienced troubles of identifying priority of indicators and selecting indicators. Financial indicators are not now the critical indicator of the PEA. The PEA will not ever go bankrupt because of the Act. In addition, other significant indicators related to customer, the internal business process, and the learning and growth are however ambiguous. The priority of indicators was not pervasively perceived among employees of the PEA, even the management team. An unsystematic approach, based on an authorised person, was applied to select indicators. During a transition period in a turbulent environment, indicator prioritisation and selection are not settled. They need to be repeatedly carried out.

Indicator Evaluation
In a process of indicator evaluation, collecting, verifying, and processing data should be carefully executed. Based on accuracy of collected data of the unit of measurement, indicators can be calculated accurately by using computer spreadsheet software and other appropriate tools. At the time of conducting this research, collecting data in the PEA is problematic. It was very difficult, if possible, to collect the right data from the right sources at the right time during a transition period in a turbulent environment. This problematic difficulty affected all performance measurement agents – the MOF, the NEPO, and the PEA.

Comparison between Indicators and Paths
The comparison between indicators and paths will result in the right adjustments that contribute to the right paths and directions leading to goals that the organisation commits to achieve in the future state. The comparison between indicators and paths could not be observed in cases of performance measurement of the MOF and the NEPO. When either indicators or paths were changed, the PEA had to compare indicators with paths again. During a transition period, comparison between indicators and paths is a repetitious task.

FINDINGS AND IMPLICATIONS

This paper presents a framework of measuring performance of the REU during a transition period of the ESI deregulation. Data from the case of REU in Thailand are used to describe the framework. The REU, originated as a

functional unit in a monopolistic environment, appears in a competitive market of the deregulated ESI. The REU case is in a process of organisational change that is likely to be a continuous process rather than a set of discrete events. Findings drawn from this research that contribute to the development of performance measurement during a transition period are summarised.

A process of performance measurement of the organisation during a transition period is different from one in a stable, predictable and controllable environment. Objectives of performance measurement are depended on an owner of performance measurement programme. Goals that the organisation commits to achieve in the future state are suggested to be used as references in a process of performance measurement. The most important feature of goals in a process of performance measurement is that it can be measured. Contextual analysis is necessary for the organisation to assess its performance during the time that it has been transforming to a new environment. Understanding strategic paths leading to goal achievement is significant for the organisation, as a measurement agent. Determination of priority of indicators does not naturally take place in the organisation. In a process of indicator evaluation, correct data are needed. Comparison between indicators and paths is a repetitious task and it is necessary for a changing organisation itself during a transition period.

Further theoretical research is needed to endorse the framework. An empirical work that theoretically tests and applies the framework will be very supportive. It will provide insights about the measuring of performance of the REU during a transition period.

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