



The effect of Management Accounting Use on Universities' Sustainable Competitive Advantage

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Abstract

Universities experienced many changes and development since the New Public Management (NPM) movement in 1980. One of the changes is the increasingly shortage of funding source resulting from the public's expenses reduction for higher education, this automatically increase competition between universities to get fund for universities' operation.

The theory of resource-based view (RBV) stated that there are four important indicators in producing the competitive advantage, named as VRIN (Value, Rare, In-imitable, Non- substitutable). Intangible assets such as intellectual capital and knowledge are resources that have VRIN characteristics and estimated will be increased by the interactively use of management accounting control system in managing and allocating of universities' limited resources, so as in the long run will increase competitiveness.

The purpose of this research is to investigate the university sustainable competitive advantage and its determinant factors, the special target is to prove that the interactive use of management accounting control system will create value from the existence of knowledge production and knowledge sharing, therefore will create the idea, innovation, and new knowledge. This afterwards expected will increase the intellectual capital and support the effectiveness of knowledge management and finally will increase sustainability competitive advantage of university. This research will use primary data with accredited university in Indonesia as samples, and use Partial Least Square method to analyse the data.

The key words: *the use of management accountants control system, sustainability competitive advantage, knowledge management, intellectual capital.*

Introduction

Research Background

University has an important role in social and economic developments at the global competition era now (Bonaccorsi and Daraio, 2007; Toffler, 1990) by creating educated and high intellectual people that could produce science, technology, and art for the development of nation economics. It is a paradox where the university as the creator and repository of science and technology not explored much (Bonaccorsi and Daraio, 2007). Therefore, the researcher is interested to explore certain area of university especially concerning competitiveness connected with the interactive use of management accounting control system (MACS) (Abernethy & Brownell, 1999; Davila, 2000; Simon, 1995).

Universities have experienced many significant changes in recent years, such as managerial revolution, the budget reduction from government, the increase competition to get fund, globalization and the increase mobility of the international student (the OECD, 2002). These changes drive the university to boost up its competitive advantage while still able to manage its fund efficiently and effectively. In this case, the role of MACS is real and crucial by helping managers of university in allocating resources efficiently and effectively.

Compare with neighbor countries such as Singapore, Malaysia, and Thailand; the university in Indonesia still has low competitive advantage. Produced by several university ranking agencies, it is known that university competitiveness in Indonesia is still low





internationally. At this time Indonesia is still in the level 50 Asian and 217 worlds, so left behind compared to Singapore that received the level 3 Asian (NUS) and 58 worlds (NTU) according to the THES QS version university rank (Times Higher Education Supplement). The competition at the national level, between the private university and the public, also is increasingly tight. This can be seen from increasingly number of higher education institutions in Indonesia. The higher education institution in Indonesia at this time reached 2988 institutions that consisted of 2900 private institutions and 88 state universities (DIKTI), this showed the increasingly tertiary institution and the strictness of the competition between the tertiary institution in the country.

Understand this increasingly tight competition situation, the university must increase his competitiveness by firstly recognised the condition of the educational business environment and the existing constraints (Birnbaum, 1992; Balderstone, 1995; Bowen and Shapiro, 1998; Freeland, 2001) and afterwards quickly analysed its strengths and weaknesses then determined the plan as well as the acquisition of resources for strategy utilization (Newman and al., 2004). The challenges and constrains concerning the university (Biggs, 2003) are like the decrease funding from the government; increase dependence on money from students tuition; the increasingly competition to earn international student; the increasing pressure on the teaching and research output quality; the increase in the request on flexible programs; the inspection from stakeholder concerning responsibility on university activity; pushed the university to continually find the method of saving the cost but continuing to maintain even increase the quality of education (Tatikonda and Tatikonda, 2001).

These challenges and constraints were started from the New Public Management movement (NPM) in 1980 that criticized the public sector as the institution that was regarded as unproductive, inefficient and effective, always the loss, low the quality, lack of innovation and creativity (Hood, 1991). The NPM movement or managerialism brought the change in public sector like: the adoption of private sector management practice and the principle of efficiency, akuntabilitas and value for money the organisation of private enterprise (Deem 1998, 2004; McLaughlin et al. 2002; Davies & Thomas, 2002); was applied by him the practice of the mechanism of the market, the competition for the tender, the privatisation of the organisation of the public as well as the practice of management accounting (Hughes, 1998; Jackson, 1995; Broadbent & Guthrie, 1992), decentralisation of the budget; achievement budgeting; the centre of the cost; responsibility accounting; the qualification (Lapsley 1999; Parker 2002), the process of the incentive; the modernisation and the competition or the competition (Broadbent and Guthrie 2008) in the sector of the public including among them the university.

The orientation stakeholder that increasingly was full of the competition was considered as the matter that important to increase the function of the organisation of the sector of the public (Walsh, 1995; Guthrie and al., 1999; Pollitt and Bouckaert, 2000; Groot and Budding, 2004) including the university, so as information of management accounting that was accurate concerning cost from the product/the service and other non financial information were really needed. In this case, management accounting as the method of producing financial information and non finance really had the real role for the university to produce information that was useful to the team of the management of the university to carry out his task in decision making efficiently and effectively (Anthony & Govindarajan 2001; Langfield-Smith 1997; Otley 1999), for planning and the control of the organisation





(Malmi and Granlund, 2009), as well as to influence the human resources action in an organisation (Flamholtz and al., 1985; Langfield-Smith, 1997).

This research will not discuss management accounting technically but rather stressed the use of management accounting in the university through the interactive concept (Simons, 1987, 1990, 1995; Langfield-Smith, 1997). The use of management accounting interactively meaning that is that the management used management accounting to monitor personally, carried out the dialogue and discussions that were active with all the organisation members concerning the threat and the available opportunity to trace the strategic uncertainty that was dealt with by the organisation (Bisbe & Otley, 2004). The use of management accounting interactively according to Thompson, Strickland and Gamble (2009) could give the competitive superiority (competitive advantage) from his rival supportively and coordinated the internal process as well as the knowledge creation and capital of the intellectual who it was hoped became the important element of the creation sustainable competitive advantage the university.

The theory of Resource-Based View (RBV) said that an organisation of the success was compared by his competitor if this organisation the focus in the identification of resources that gave added value (Grant, 1991) that usually is rare and has difficulty being imitated. These resources could produce sustainable competitive advantage and made this organisation very valuable in the eyes of his consumer (Grant, 1991; Kraaijenbrink and al., 2010).

Capital of the intellectual and knowledge were resources that his characteristics were unique, rarely and were not easy to be copied. According to Brooking (1996), capital of the intellectual as the combination intangible assets (market, intellectual property, human-centred and infrastructured), could make an organisation functioning well and decisively the company's competitiveness (Edvinsson and Malone, 1997; Sveiby, 2001). Whereas Edvinsson and Sullivan (1996) said that the based organisation knowledge (knowledge) produced the profit from the innovative and knowledge-intensive service service. The university was the based organisation knowledge because of that the manager in the university increasingly must be aware of the role of knowledge in producing SCA and wealth to mendanai his activity persistence tridharma the tertiary institution. Because of that the role of management accounting was increasingly demanded to be able to create the value that will increase sustainable competitive advantage that was based on knowledge (Marr and Chatzkel, 2004) and was expected to be able to support the activity of the creation, the collection, the organising, the distribution, the use and the exploiting as well as the maintenance knowledge (knowledge management) that gave added value (Wiig, 1997) for the university.

In planning and the use of the system of management accounting, the background of the team of the manager of the peak (TMT or Top Management Team) as the side that was responsible for on the university management being the important element. The TMT background (Top Management Team) that was heterogeneous as the age, education, has for a long time wrought or the experience from manpower according to Hambrick and Mason (1984) could predict the impact organizational, the choice stratejik and the level of the achievement. Therefore, the team's heterogeneity of the management could it was hoped bring the dynamics was bigger in creativity, the innovation, knowledge, the idea, the ideology, et cetera so as to enable the university to have the better achievement (Jackson, in May & Whitney, 1995), and it was hoped will reinforce the influence of the use



of management accounting towards competitiveness, the management of knowledge and capital of the university of the intellectual.

Be based on the analysis above, then this research hypothesized that the university as knowledge repository that operated in based economics modern knowledge will produce more competitive superiority that came from capital of the intellectual (Seagold, 1998) and the management of knowledge that was increasingly effective because of the existence of the use of management accounting interactively by TMT of university.

The research problem

From the explanation on the research background above, the problem of this research formulated as follows: “How the influence of the interactive use of management accounting on the knowledge management, intellectual capital and the sustainable competitive advantage of the university?”

Research Goal

The research goal is to prove that intellectual capital and the knowledge management fulfil the conditions and the attributes as resources that gave sustainability competitiveness for the university and the two resources could be created and maintained with the existence of the interactive use of management accounting systems by the top management team of Indonesian universities.

Literature Review

Wernerfelt (1994) said that the intellectual capital and knowledge are resources that have unique, rare and unreplaceable characteristics. Further, Brooking (1996) stated that intellectual capital as the combination of intangible assets (market, intellectual property, human and infrastructured), could make an organisation functioning well and decisively sustain their competitiveness (Edvinsson and Malone, 1997; Sveiby, 2001) and became the source of the wealth and the power in the future (Burton-Jones, 1999). The organisation based knowledge like the university according to Edvinsson and Sullivan (1996) could produce the profit from the innovative and knowledge-intensive service. Therefore, the University must be able to develop and facilitate the behaviour and the structure in the process of the creation and management of the knowledge that better than other universities.

There are two important aspects from knowledge, those are: 1) the management of knowledge, focus on the efficient use of knowledge, 2) the knowledge creation, focus in the process of producing new knowledge. This research will focus in the aspect of the management of knowledge as the source of sustainable competitive of the university.

The knowledge management has become main activity of a modern organisation (Wiig, 1997), it was connected with the process of creation, collection, organising, distribution, the use and the exploiting of knowledge; knowledge management also is the collection of techniques, tools, and the activities that focus in helping the university in receiving and communicating resources, the capability and the tacit and explicit perspective, the data, information, knowledge (Stewart, 1997) that will be distributed through all of the organisation parts (Skyrme, 1997).

All knowledge was necessarily begun from an information. The conversion from information became knowledge was connected with the momentum of the receipt of information. Acquisition time of relevant information with the condition at this time



because of information that was needed at this time could be different from the condition beforehand, because of that information must be when that was exact so as to become knowledge that was useful to the organisation. In this case, financial information and non-finance that was produced from the system of management accountancy could become a process the creation the value and the absorption intelinjensi or knowledge concerning the price and the quality of the acquisition of university resources (Newman et al., 2004).

The management accounting control system in the university produced information that used to refine and understand the higher education trend, the focus in the interpretation creation produced by the analysis together and afterwards shared the data with each other/information/knowledge to the other part available in the university. The system of management accountancy also often was used as the allocation method of resources and in producing financial information and non-finance that was useful in decision making efficiently and effectively (Anthony and Govindarajan, 2001; Langfield-Smith, 1997; Otley, 1999).

However, a sophisticated system of management accountancy although being not effective if being used not exactly in practice (Johnson and al., 1987). The system of management accountancy to the university will be effective if could help the organisation reached the target, to a process the creation thought that purposeful to support the process decision making, the motivation the action, and the creation the value of university competitiveness (Atkinson and al., 2001) and did not reduce the value from efforts that were carried out achieved the competitive superiority (Johnson and al., 1987).

The paradigm of the system of management accountancy at this time showed the management of effective resources and his relevance in the process the creation thought. The Bhimani study and Roberts said that information of management accountancy memungkinkan the activity organisasional that was different to be classified in a manner the uniform and was modified so as to be able to function economically and to be controlled in a managerial way. In the practical term, the system of management accountancy had the potential to the activity part of the management of knowledge.

The system of management accountancy also had the potential and strategic role in supporting the grating and the capital management of the intellectual in accordance with the Tayles study et al. Relations between the system and capital of the intellectual of management accountancy also were researched by Wingren. The Wingren study put forward a model that combined the grating system tangible and intangible with connected balanced scorecard and capital of the intellectual in a structure, whichever the side tangible showed the strategic target and the side intangible showed the strategic target. This Framework Wingren showed how the part of the system of management accountancy moved from that the focus tangible to more intangible and economics was based on knowledge. Therefore, the researcher predicted that the use of the system of management accountancy was connected with the creation or the increase in capital of the intellectual and the effectiveness of the management of knowledge especially to the university in Indonesia.

The use of management accountancy could in a manner diagnostics and interactive (Simons, 1995), where both of them were the important component from the process pembelajaran (Ferreira and Otley, 1999). But according to several researches, the use of diagnostics of management accountancy could not trace the strategic uncertainty and pushed the process of the development of ideas, thinkings, the strategy and new knowledge (Simons, 1995; Henri, 2006). Whereas the university experienced turbulence of





the fast change, because that interactive management accountancy could help the identification of the strategic uncertainty in the world of the tertiary institution and developed decisive factors university competitiveness.

This research will study the impact of the use of management accountancy in the university (Simons, 1987, 1990, 1995; Langfield-Smith, 1997) towards continuous competitiveness from the university in Indonesia through the increase in capital of the intellectual and the effectiveness of the management of knowledge was seen from the perspective of Resource-based view (RBV). It did not yet have the research beforehand that studied the impact of the use of management accountancy on the increase in assets was not concrete that it was predicted could give competitiveness for the university comprehensively, the research beforehand more saw the impact of the use of management accountancy on the innovation (Chapman, 2000), the intellectual and the achievement of the organisation of the sector of the industry (Novas and al., 2013).

Further, this research proposed that the interactive use of management accounting system could become the foundation for the realisation of collaboration, the acquisition, the transfer and pemeliharaan the idea, as well as knowledge (knowledge) in the university that will increase sustainable competitive advantage that be based on knowledge (Marr and Chatzkel, 2004) and capital of the intellectual. If this was trusted the university, then the use of the system of management accountancy will to the university consider to be based on his impact on the management activity of knowledge and the increase in capital of the intellectual to achieve the superiority of continuous competitiveness.

In planning and the use of the system of management accountancy, the manager's leadership of the university as the side that was responsible for on the university management being the important element. Leadership as a relations that influenced between the leader and the subordinate who were involved in heading a change that reflected the aim together (Daft, 2005), could predict the impact organisational, the choice strategik and competitiveness. This research distinguished the research transactional and transformational. Therefore, the manager's leadership in the university it was hoped could bring the dynamics was bigger in creativity, the innovation, knowledge, the idea, the ideology, et cetera so as to enable the university to have the better achievement (Jackson, in May & Whitney, 1995), and it was hoped will reinforce the influence of the use of management accountancy on university competitiveness.

Research Methodology

This research used the empirical field study through the questionnaire survey that contained a set of question that was chosen was based on the criterion as indicator variable. Through the questionnaire, it is expected that the respondent will be able to give the perception and his view objectively. Hambrick and mason (1984) said that organisation outcome of the achievement and competitiveness could be reflected from the Top Management Team perception.

There were two matters that will be done in the processing and the analysis of the data, that is 1) carried out the descriptive analysis was based on the the respondent description and 2) the Analysis of the data was based on PLS (partial Least Square). The reason for using PLS was because of being the method that directly tested a set of relations that mutual dependences simultaneously and, the two capacities to carry out the assessment comprehensively as well as the transition from exploratory to confirmatory (Hair and al., 2006).



This research method used partial Least Square with the application SmartPLS 2,0. As for to measure statistics multivariat through the evaluation stage outer the model, inner the model and it was known the phenomenon of the influence of the mulberry between the variable so as to be able to be known by the phenomenon of the model against actual life.

Results and Analysis

From results of the research by using the questionnaire data that was spread to the top management team of the university in Indonesia, it was found that the interactive use of management accounting system had the significant influence on university competitiveness through the increase in intellectual capital of the university. Whereas the knowledge management in this research do not have the significant influence on the increase in the sustainable competitiveness of university, this possibly as a result of unfamiliar concept of the knowledge management practice in the university untill now.

The coefficient of the interactive use of management accounting control system effect on intellectual capital is 0.349. The interactive use of management accounting control system is statistical significant on intellectual capital ($4.220 > 1.96$); the coefficient of the interactive use of management accounting control system on knowledge management is 0.569 and statistically significant ($8.714 > 1.96$); the Coefficient of the interactive use of management accounting control system on sustainable competitiveness is -0.322 and statistically significant ($2.366 > 1.96$); the Coefficient of the Intellectual Capital route on sustainable competitive is 0.668 and statistically significant ($5.826 > 1.96$); the Coefficient of Knowledge Management on sustainable competitiveness is 0.081 but not statistically significant ($0.809 < 1.96$); the Coefficient of the Leadership route towards Competitiveness of -0.874. Leadership was influential significant towards Competitiveness ($2.605 > 1.96$); the Coefficient of the interaction route between the Use of Manajemen Accountancy and Leadership towards Competitiveness of 0.927. The interaction between the Use of Manajemen Accountancy and influential Leadership significant towards Competitiveness ($2.373 > 1.96$).

As for for the testing predictive relevance by using the formula was as follows:

$$Q^2 = 1 - (1 - R_1^2) (1 - R_2^2) (1 - R_3^2)$$

$$Q^2 = 1 - (1 - 0,465) (1 - 0,324) (1 - 0,122)$$

$$Q^2 = 0,682 (68,2\%)$$

$$\text{Galat Model } 100\% - 68,2\% = 31,8\%$$

This matter showed the model could explain 68.2% diversity of the data and could study the phenomenon that was used in the research, whereas 31.8% were explained the other component that was not observed to this model.

Further Recommendation

For the further research, must be developed the grating for intellectual capital and knowledge management in quantitative measures. This research did not do this due to the shortage of time that was needed to carry out the production of database of the intellectual capital, knowledge, and university competitiveness.



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