

Conference Paper

Value Chain Analysis for Strategic Management Accounting: Case Studies of Three Private Universities in Kupang - East Nusa Tenggara

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Abstract

This study aims to describe the concept of value chains as the basis for strategic management accounting design in three private universities in Kupang (East Nusa Tenggara). A qualitative approach with multiple case study methods is used in this study by focusing on the problems that arise as a result of the enactment of Law No. 12 of 2012 concerning PTN-BH concerns autonomy and decentralization. Semi-structured interviews were conducted at three leaders of private universities, they were chosen because they were considered to have the greatest role in improving the quality of the institutions they lead. This research offers a contribution in identifying competitive advantages in an effort to improve the quality of private universities. In addition, contributions in designing strategic management accounting are also carried out in order to assess their relative position against competitors. This study found ten main themes, namely the number of new students, the ratio of lecturers to students; recruitment of new lecturers; use of technology; national and international publications; public services; quality of lectures; quality of graduates and waiting period; infrastructure development and promotion. Value chain analysis is proven to be able breaking down the university to determine relevant strategies in order to improve sustainable quality. This research also shows that the case study method can be a powerful tool in analyzing the value chain concept.

Keywords: Value Chain, Strategic Management Accounting, Private Universities

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1. Introduction

In recent years, there have been reforms in higher education in various countries on different paths and times. The reformation refers to changes in government regulations which ultimately changed system and management practices at the university. Based on research conducted by Agasisti et al. (2008) note that the reform process has affected higher education in many countries in Europe. This change in particular has changed the

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balance between central governments and university by increasing the decentralization of responsibilities. This has an impact on progressive reduction in public resources, so that universities must think of more managerial organizations by utilizing practices and models from the private sector. The University also began to collaborate with the private sector to obtain additional funds for campus operational activities. One of the main general characteristics of reform is the emphasis on university autonomy, both in academic and management problems (OECD, 2003).

Significant changes in higher education sector as a service industry have replaced the traditional role of state-funded non-profit educational institutions to become self-seeking companies (Goldsworthy, 2009). In Indonesia, the government has made several changes to laws and regulations related to higher education since 1999. In 2012, the government issued Law No. 12 of 2012 on Higher Education which discusses related to the granting of authority to State Universities (PTN) with the establishment of Legal Entities (PTN-BH). Thus PTN are given autonomy to manage their own institutions based on the principles of accountability, transparency, non-profit, quality assurance, and effectiveness and efficiency. Therefore, PTN-BH is required to be financially independent, due to reduced government responsibility. This condition eventually made state universities try to fulfill their operational needs by utilizing funds from private sources such as raising tuition fees through the enactment of single tuition (UKT), enlarging the capacity of new student admissions, opening various study programs and cooperation and other private businesses.

Various changes that occur require universities to improve quality and strength, both PTN and Private Universities (PTS). (Hutaibat, 2011) in his research stated that the higher education sector has undergone very rapid changes and developments such as increasing competition, globalization and limited funding resources. Coupled with the high level of public appreciation for universities, PTN and PTS need to achieve service excellence in order to maintain reputation and students gain value from their participation in tertiary education (Mirfani et al., 2012). This causes universities to try in various ways to improve their competitive advantage in order to stay afloat. At this time a value chain, strategy, strategy management, strategy management accounting for the higher education sector is needed (Hutaibat, 2011).

PTS in the City of Kupang (East Nusa Tenggara) was affected by the enactment of Law No. 12 of 2012. Nusa Cendana University (Undana) as one of the best PTN in NTT, for example, in 2017 increasing the capacity to receive new students from 7,165 students in 2016 increased to 10,000 students in 2017 (teropongntt.com). Undana value added

as one of the state universities is an attraction for new students. In fact, on the other hand, private universities as the second choice became neglected and experienced a significant decrease in the number of new students. This is a threat and warning for private universities to continue to improve their quality and competitive advantage if they want to survive.

This study seeks to offer a contribution in identifying competitive advantages in an effort to improve the quality of PTS through value chain analysis. Dorri et al. (2012) states that one of the models that can be adopted to improve the quality of higher education institutions is a value chain based on a process approach in organizational studies. This is the main reason the researchers used value chain analysis in this study. Besides that the contribution in designing a strategy management accounting system is also carried out because the concept of value chain is radical and no longer requires many conventional measures of achievement such as contribution margin analysis, it is necessary to adopt strategy management accounting (Hoque, 2006). In addition, strategic management accounting can also be used to study competitors, costs, volumes and strategies which are important in assessing positions relative to competitors.

The aim of this study is to describe how the three private universities in Kupang City improve the quality of their educational institutions by applying value chain analysis based on the value chain concept proposed by Porter (1985) and the value chain that has been configured by Pathak dan Pathak (2010). The next goal is to develop the value chain concept as a basis for designing strategic management accounting. A qualitative approach with multiple case study methods is used in this study to illustrate issues or issues from various research sites that are used as objects.

This study consists of five parts: (1) introduction which discusses various reforms in higher education, (2) literature review, (3) methods used, (4) results, and the last part (5) discussion.

2. Literature Review

2.1. Value Chain

Reforms in higher education are sometimes not balanced with improving the quality of educational institutions, especially in private universities, the consequence is that they do not have competitive advantage, are threatened with bankruptcy and many are closed. Coupled with the increasing number of PTN opening the student admission path

even more than the quota, finally PTS that cannot compete is getting worse. Pathak dan Pathak (2010) in his research stated that the dynamics that occur in higher education require the creation of competitive advantage, therefore a value chain concept is needed. The concept of value chain describes a series of functions that create related values needed by bringing products or services to customers (Hoque, 2006). The concept of the value chain was first developed by Michael Porter (1980, 1985) as a tool to help business organizations analyze cost structures and identify their competitive strategies.

Porter value chain analysis focuses on the internal strength of the organization with the aim of providing value to customers, so the value chain can be interpreted as a series of activities and company resources to provide value to customers. Furthermore Michael Porter divides activity into two categories; primary activities and supporting activities. Primary activities consist of: (1) inbound logistics activities, (2) operating activities, (3) outbound logistics activities, (4) marketing and sales, and (5) service. While support activities consist of: (1) procurement, (2) human resource management (HRM), (3) technology development (R & D) and (4) infrastructure. Having different but complementary objectives, primary activities are prioritized at the frontline of operations, while supporting activities provide internal services to customers (Li, 2018).

The concept of value chain was initially only applied to the manufacturing sector, but along with developments in the service sector, the value chain began to be applied in the higher education sector even though not directly (Dorri et al., 2012; Gabriel, 2005, 2006; Makkar et al., 2008). This is evident from several previous studies that have proposed different alternative value chains for higher education institutions (Gabriel, 2005; Makkar et al., 2008). However, research conducted by Pathak dan Pathak (2010) conducted a review of the analysis of the Porter value chain by expanding its application to the tertiary sector. This research turned out to be able to assimilate developments in higher education and make a case in the application of the Porter value chain in this sector. This builds on a new idea that the Porter value chain can be applied in higher education, but must be adapted to the unique context in the college.

The configurable higher education value chain proposed by (Pathak & Pathak, 2010) is presented in Figure 1 below.

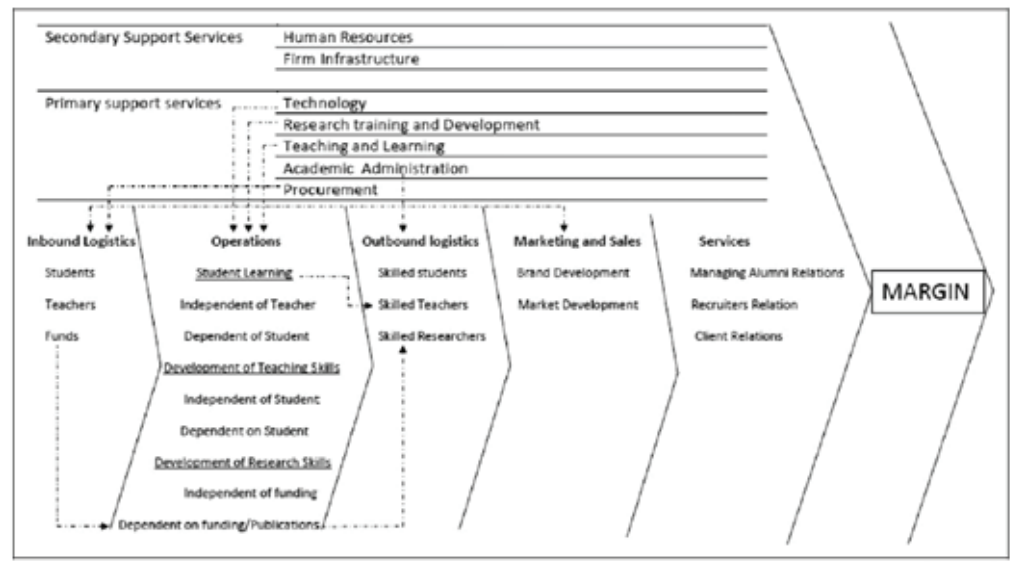


Figure 1: Reconfigured Higher Education Value Chain (arrows indicate the critical linkages) (Pathak & Pathak, 2010).

2.2. Strategic Management Accounting (SAM)

Increased autonomy and decentralization of universities provide new opportunities for universities to manage their academic institutions independently. However, according to (Agasisti et al., 2008), causing challenges for management and the university's academic board at the same time, especially the difficulty in defining and developing their strategies. This happens because of the need to define the information base to guide their strategy setting such as the strategic management accounting system. This statement is also supported by Makkar et al. (2008) that non-profit organizations such as universities increasingly use modern management and administrative concepts to manage their organizations professionally due to the constantly changing environment. This has an important effect on the application of management accounting and the definition of strategies at private universities.

According to Dixon (1998), the principle of strategic management accounting is one of a set of principles that have formed the basis of a strategy model, in which these models try to identify strategies that create competitive advantage and clarify the company's strategic intentions. Strategy management accounting is closely related to Porter value chain analysis, because it provides a better basis for design management accounting strategies. This statement is supported by Shank dan Govindarajan (1992a) research, suggesting that strategic focused management accounting is needed to provide information to managers to support decisions relating to each organization's activities and

processes. In addition, management accounting information is also needed to help managers establish new competitive strategies, evaluate existing competitive strategies and monitor and assess progress towards specific strategies. Strategy and accounting are interconnected and have produced a number of contributions in their investigations such as activity-based costing and Balance scorecard (Agasisti et al., 2008).

Changes in external orientation that occur in organizations involve customer satisfaction to gain competitive advantage. As such, organizations no longer use traditional management accounting systems focusing internally but the focus changes to be more strategic oriented. In addition, traditional management accounting does not provide adequate information about non-financial and external factors that are important for long-term survival. Therefore, the challenge involves management accounting switching from traditional 'managerial cost analysis' to advanced thinking 'strategic cost analysis' or known as 'strategic management accounting' (Hoque, 2006; Shank & Govindarajan, 1992a, 1992b, 1993). Strategic management accounting are the main means of helping managers manage each business function and coordinate their activities within the overall organizational framework.

As a radical concept and no longer using traditional measurement, the value chain needs to adopt strategic management accounting. Because management accountants need to identify the right cost driver and provide information about what activities are done and why an activity is carried out and how well the activity is carried out (Hoque, 2006). Furthermore, SAM can also enable organizations to study competitor prices, costs, volumes and strategies which are important points for companies in assessing their relative position to competitors. Therefore, management accountants must understand that each component in the value chain has an interdependence to analyze whether an activity is worth adding or not. In fact, greater use of non-financial measures can be taken to assess the company's strategic initiatives. Researchers also recommend an integrated or balanced performance measurement system by combining financial and non-financial performance measures.

2.3. Higher Education Case Study

Higher education is required to continue to improve academic quality over time (Yarmohammadian, 2004; Yarmohammadian et al., 2011). Therefore, every component in the university starting from students, academic staff, publications, infrastructure and others is required to be able to compete with the private sector as well as at the international

level. The increasingly complex changes in the environment have resulted in direct management by the government which is no longer appropriate (OECD, 2003). Good academic quality is expected to have an impact on the improvement of human resources (HR) produced later. However, various challenges to the continuity of the university began to emerge, starting from the internal challenges of the institution, the condition of the nation, global and information technology challenges, consequently increasing university burden and pressure.

Various cases related to higher education began to emerge since the issuance of Law No.12 of 2012 by the government regarding the establishment of PTN-BH, where PTN were given the authority and autonomy to manage their academic institutions independently. This has an impact on the reduced role, responsibility and subsistence in the government towards PTN, even though in order to improve academic quality, universities need a variety of facilities and infrastructure that require large costs. This makes PTN more managerial by utilizing practices and models from the private sector to finance their operations. One of them is by opening various special lines and cooperation channels to enlarge the new student admission quota from previous years. When the capacity of students in a PTN increases, there must be a decrease in the number of students at PTS. This condition worsened with the competition that occurred between the PTS, so PTS that were not able to increase their competitive advantage would get worse and even threatened to go bankrupt and close. In addition, the government's policy on the mechanism of applying twice the test for prospective students who will register with PTN in 2019 is considered very detrimental to PTS (suaramerdeka.com). Increasing opportunities for SMA /SMK graduates into PTN, the opportunity for PTS to get new students is increasingly difficult.

The demands of competition in higher education, made PTS try to improve its competitive advantage through value chain analysis and define a more in-depth strategy through strategic management accounting. The Value Chain at the university according to Sison dan Pablo (2000) can be seen as a network of activities centered on the functions of teaching, research, and community service. Where, it involves the design of education, delivery of education, assessment, research and development, and outreach activities. Each process will add to the total value of the education package given to students and as supporters are recruitment, admission, registration, academic services, and alumni support activities. Therefore, each activity in the value chains both primary activities and supporting activities are interrelated to provide value to the customer. This research was conducted by looking at the cases that occurred in higher education

especially those related to the improvement of academic quality that can be taken using value chain analysis.

3. Methodology

3.1. Participant

This study uses purposeful sampling in determining and selecting participants. Non-random samples are used to increase the utility of information obtained, because selected participants are considered capable, have extensive knowledge and have complete information about the phenomena that occur. The leaders of three private universities in Kupang City (Widya Mandira Catholic University, Artha Wacana Christian University and Muhammadiyah Kupang University) acted as participants in this study. The main criteria used in participant selection are a) the participant is the leader of the top three PU in the city of Kupang based on the 2016 NTT Universities ranking (satutimor.com); b) participants are the highest leaders or academic leaders who know firsthand the conditions of university.

3.2. Case Study Method

The qualitative approach-case study method was used in this study. According to (Yin, 2009), case study research includes the study of a case in real life, in a context or contemporary setting. Case study research is a qualitative approach wherein researchers explore real-life, limited contemporary systems (cases) or a limited range of systems (various cases) through detailed and in-depth data collection involving a variety of multiple sources of information or sources of information (e.g. observations, interviews audiovisual material, and documents from various reports), and report case descriptions and case themes (Creswell, 2007).

Case studies are divided into three types based on the objectives of the case analysis, namely (1) a single instrumental case study; (2) collective or multiple case studies; and (3) intrinsic case studies (Creswell, 2007). This study uses a type of collective or multiple case study, namely choosing one issue or problem but the researcher chooses a variety of case studies to illustrate the issue or problem. So, researchers try to show a variety of perspectives on the issue or problem under study.

3.3. Data Collection

Data collection in case study research according to Creswell (2007) was carried out through observation, interviews, documents, and audiovisual material. Furthermore, Yin (2009) states that the main characteristic of case study research is the use of various sources of evidence. This study uses three methods of data collection, namely through interviews, documents, and audiovisual.

Semi-structured interviews are used as data collection tools in this study. The method was chosen because the researchers still wanted to design and use the interview protocol based on the guidelines of Kvale dan Brinkmann (2009), on the other hand the researchers also wanted to provide space when interacting with participants when new questions emerged from the answers given. Interviews were conducted at different times and places for three participants while still referring to the interview protocol.

Furthermore, the collection of various documents relating to the research was also carried out whether they were obtained directly from participants or not. In addition, audiovisual material in the form of video recordings, photos, and websites also supports the collection data in this study.

3.4. Data Analysis

In data analysis, researchers reviewed all transcripts, interview notes, documents, audio-visual material and were coded continuously during data collection to identify themes. Then the interview results are transcribed and the data is analyzed throughout the research process as data analysis to encourage further data collection.

The researcher used the guidelines in qualitative data analysis suggested by (Miles & Huberman, 1994) as follows:

1. Samples are derived and analyzed iteratively and continue until saturation is achieved.
2. Researchers immerse themselves in identifying data in detail, and identify and refine the themes that emerge.
3. Analyze and understand the meaning behind the words of the participants.
4. The researcher must be able to explain in detail, the steps of the analysis taken or to be taken in the study. Researchers must limit the use of jargon and explain the steps and rationale for each step in simple language.

4. Results

4.1. Introducing the participant

First participant: Mr. Frankie J. Salean, SE., MP, as Chancellor at Artha Wacana Christian University (Ukaw).

Second Participant: Mr. Dr. Ir. Yosef Laynurak, M.SI, as Deputy Chancellor for Academic Field at Widya Mandira Catholic University (Unwira).

Third Participant: Mr. Dr. Zainul Mula., M.Sc, as Chancellor at Muhammadiyah University of Kupang.

4.2. Themes

4.2.1. Number of New Students

The number of new students is one of the primary activities that is a concern in the value chain series by all participants interviewed in this study. All believe that the increase in the number of new students over the past 5 years shows that the university is in a stable condition and its academic quality is maintained. But not all universities have experienced an increase in the number of new students, according to participants from Ukaw, the number of new students over the past 5 years has tended to decline, although not significantly. One of the strongest contributing factors according to him is the increase in the number of Undana new student admissions which is almost two or three times higher than in previous years. The appeal of being a public university that offers lower tuition fees is the reason people prefer Undana compared to other private universities. In addition, the independent demand for financial problems as PTN-BH made Undana open three waves of new student admissions this year.

Two other participants experienced an increase in the number of students, even Unika Widya Mandira was at a stable level each year according to the adequacy rate. However, the limitations of infrastructure and information technology have caused them to be unable to accept students in excess of capacity. Economics and engineering are two faculties that are highly sought after by new students in Unika while MIPA faculties (biology and chemistry) are of less interest. The same thing happened at Muhammadiyah University of Kupang which showed a trend of increasing the number of new students over the past 5 years.

4.2.2. Ratio of lecturers to students

The terms of the ratio of lecturers to students are important factors that are also appointed by the three participants, because this becomes a consideration when accepting new students every year. This ratio is adjusted to the circular issued by the Higher Education Office (Dikti). At the time of the interview the three participants said that almost all study programs had met the ratio. But there are still a number of study programs that are still experiencing problems because of the increasing number of students and the lack of teaching staff. This of course must be resolved immediately because it will become a red note for universities that have not met the ratio of lecturers to students.

The reason for the university not yet fulfilling the ratio of lecturers to students according to Ukaw Chancellor is because there are faculties that experience an increasing trend of students; otherwise there are faculties that experience a decline in students so that the distribution becomes unbalanced. Furthermore, according to WR I Unwira, the ratio of lecturers to students is still within reasonable and normal limits. Even though there are advantages but it doesn't show numbers that don't make sense and can still be overcome by using outside lecturers. The same thing happened to the Muhammadiyah University of Kupang, according to the Chancellor, there were a number of study programs that had not met these requirements, for example political science study programs. But for reasons of accreditation, they will try to recruit teaching staff as soon as possible to fulfill the requirements of six permanent lecturers in each study program.

4.2.3. Recruitment of new lecturer

An important factor in the next value chain proposed by participants is the need for quality teaching staff. Therefore, every year the university always prepares a budget to recruit new lecturers with a minimum qualification of a master's degree (S2). Recruitment is based on the needs of each faculty, the number also varies, can be one or even more than one new lecturer per year. Participants also said that there are several things that need to be considered in recruiting new lecturers, such as the level of education, the origin of college, the field of expertise and attitude.

The number of teaching staff needs in each study program varies, for example the case that occurred in Ukaw which was revealed by the participants in the interview, namely the English, PJKR, and law study program might only recruit one new lecturer in

a year. On the other hand accounting and management study programs have not met the lecturer adequacy ratio, so it is necessary to recruit up to two people each year. The same thing was expressed by participants from Unwira who each year they recruited six new lecturers, each of which amounted to three people for the faculty of economics and the faculty of engineering. Furthermore, participants from Muhammadiyah University said that the appointment of new lecturers was adjusted to the needs of study programs and institutional capabilities. Recruitment is prioritized for new study programs which certainly require teaching staff.

4.2.4. Use of technology

At present, technology is one of the important factors that play a role in improving academic quality in universities. All participants believe that the use of technology makes it easy for students, lecturers and all members of the community to access various things to support the lecture system. The three participants revealed that universities are still very limited in the use of technology, for example internet access is still limited, projectors that have not been installed in each classroom, limitations in accessing online journals, and others.

Technology is also related to the development of learning strategies that have been carried out. The Ukuw Chancellor explained that they had conducted various trainings: "Yes, like yesterday's workshop. So we invite speakers to improve learning methods". The same thing was said by the vice chancellor of Unwira: "We have institutions regularly every year for training lessons... That's what we develop, especially the Student Learning Center. That's what we focus on".

4.2.5. National and International Publications

The three participants in this study said that universities provide opportunities for lecturers to publish their research in both national and international journals. The lecturers were motivated and provided with various trainings and workshops both from within the university and from outside, so it is expected that the number of lecturers who receive research grants and services from the Higher Education each year increases. In addition, the university also provides internal funds, the amount of which varies according to the ability of each institution.

Internal research funds are distributed in each study program evenly. For example, as explained by participants from Unwira that every year they provide four research titles per study program with a fairly rational range of six to seven million rupiah per research title. Universities also provide incentives for those who are successfully accepted in Scopus indexed international journals. Furthermore, participants from Muhammadiyah University in the interview said that the institution provided internal funds for research and each service twice per year. The University provides funds in the amount of seven and a half million rupiah for research and five million rupiah for each semester's service. This was done to encourage lecturers to publish both nationally and internationally. National and international publications are still dominated by MIPA faculties and social sciences.

4.2.6. Public Services

Providing satisfying public services, such as administrative, academic, and student services is a competitive advantage that must be possessed by every university. The three participants when interviewed said that they felt they had provided sufficient service so far. Although it does not rule out the possibility that there are still those who are dissatisfied with the services provided, every complaint and criticism will be used as input to improve services better. According to participants from Ukaw complaints, what happens is usually related to academic services, such as problems with supervisors and guardian lecturers that are difficult to find due to various activities. In contrast to participants from Unwira who said that complaints are usually related to student services because of limitations in accessing information technology.

4.2.7. Quality of Lectures

The quality of the lecture that was highlighted by the three participants in this study was summarized by researchers as follows: (1) using a KKNi-based curriculum, (2) setting a special budget for lecturer development through various trainings, (3) using technology in lectures, (4) evaluating teaching, learning and research, (5) measuring lecturer performance based on Lecturer Workload (BKD). All the elements mentioned earlier have an important role in determining the quality of lectures in higher education. Linkages to each other become inseparable unity, therefore the leadership's role in evaluating and controlling is expected so that lectures can be done well.

4.2.8. Quality of Graduates and Waiting Period

The three participants believed that improving academic quality had an effect on the quality of the human resources produced so as to meet market needs. The quality of graduates is also one indicator of the success of a college. In the interview conducted by the three participants, the graduates produced were proven to be able to compete with other PTN / PTS with an average time of more than six months. The participant from Unwira said that based on tracer study and recognition from stakeholders, on average their graduates have good quality and are acceptable in the workforce. Although the waiting time of each graduate varies, the average is six months to one year.

4.2.9. Infrastructure Development

Based on the results of interviews with the three participants, the researchers concluded that the development and development of infrastructure became important as well as an activity that requires enormous costs. According to the first participant, Ukaw has made a development master plan that will be decided together with the foundation. The plan relates to the rector building that will be used as a lecture building and office building plans. The second participant said: "We continue to equip facilities and infrastructure by building new campus buildings on 20 hectares of land". "A rector building is under construction and a student hall will be built later". The same thing was explained by the third participant: "Yes, we really need to improve again. So now our facilities and infrastructure for several thousand students are still enough, but in the future we need to improve building construction, facilities".

4.2.10. Promotion

Promotion is an important part of marketing and sales which is the main activity in value chain analysis. The first participant said that Ukaw always promotes every year by sending teams to churches and schools by distributing brochures and posters. In addition, promotions are also carried out through newspapers, radio and online media such as Facebook. Furthermore, the second participant said that in addition to mass media and electronics, Unwira also promoted word to mouth and also through alumni. Promotions through newspapers, radio, and schools are also conducted by Muhammadiyah University based on the results of interviews with third participants.

4.3. Strategic Management Accounting Design

The concept of value chain is the basis used in designing strategy management accounting in the three private universities that were the object of this research. SAM design is presented in the following Figure 2.

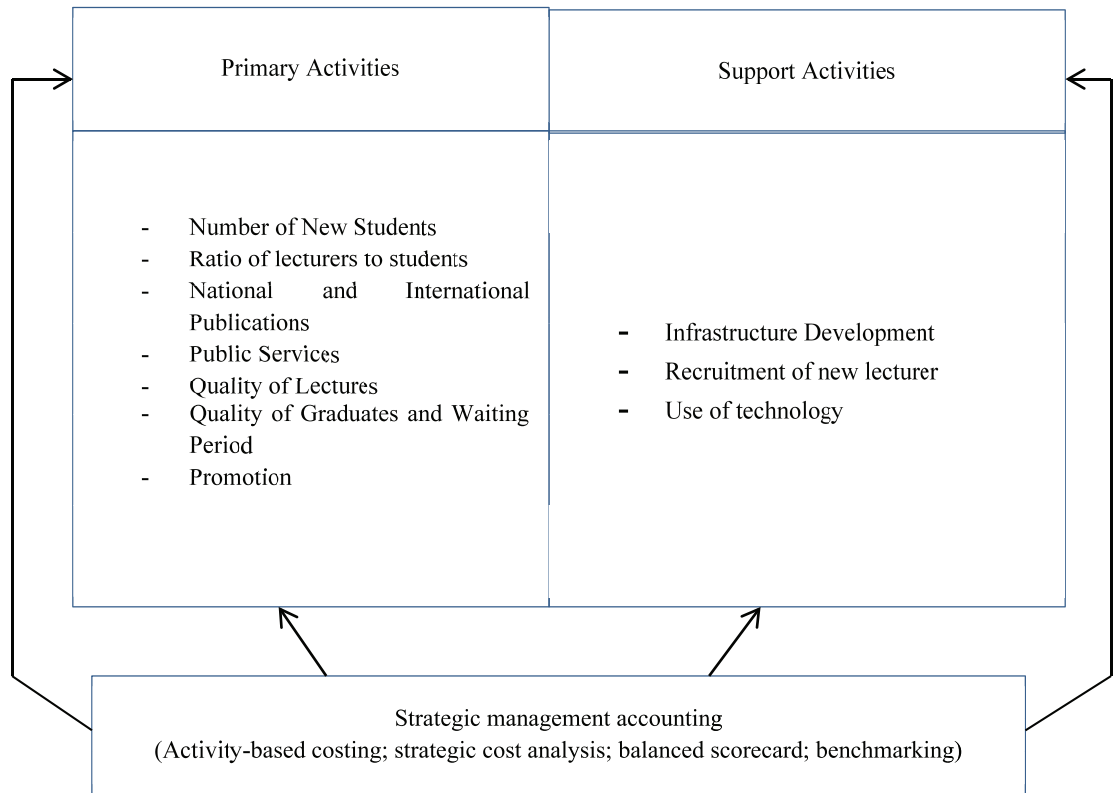


Figure 2: Strategic Management Accounting Design.

Figure 2 show that when universities know what their competitive advantage with value chain analysis is, they begin to think about how to achieve and maintain strategies. By conducting management accounting strategies, the university can manage and coordinate their activities in the overall framework of the organization.

5. Discussion

The themes of the number of new students, the ratio of lecturers to students, recruitment of new lecturers, use of technology, national and international publications, public services, quality of lectures, quality of graduates and waiting period, infrastructure development and promotion be grouped into two activities, a primary activities and support activities. Both of these activities refer to the Porter (1985) but have been adapted to the unique context of the college based on reconfigured conducted by Pathak dan

Pathak (2010). Primary activities is the main activities that starts from inbound logistics to service that is described in seven themes based on the results of interviews with the three participants consisting of: number of new students, the ratio of lecturers to students, national and international publications, public services, quality of lectures, quality of graduates and waiting periods, and promotion. While support activities consist of: recruitment of new lecturers, use of technology, infrastructure development.

Value chain analysis is useful for universities in knowing what competitive advantages are their strengths. After identifying its competitive advantage, universities can determine what strategies should be used in order to carry out all the functions that exist through the design of strategic management accounting. Strategy management accounting design helps universities to study competitors, costs, strategies and volumes, which are very useful for knowing their relative position against competitors.

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