A comparative analysis of performance measurement and rewarding systems in two Universities - Lund University and Northeast Forestry University

Prepared By:

Lu Jin & Anqi Fu

Supervisor: **Gert Paulsson**

28 May 2019

Table of Contents

Abstract

Title: A Comparative analysis of performance measurement and rewarding systems in two universities - Lund University and Northeast Forestry University

Seminar date: June 2019

Course: BUSN79 Business Administration, Degree Project in Accounting and Finance.

Authors: Lu Jin and Anqi Fu

Supervisor: Gert Paulsson

Keywords: Performance measurement, rewarding system, incentives, universities, management, motivation.

Purpose: The purpose of this thesis is to compare the performance measurement tools and indicators used in both Lund University and Northeast Forestry University and point out to the advantages and disadvantages in both systems.

Methodology: university cases, structured interviews, questionnaires.

Theoretical Framework/Perspectives: The first part includes a description of the performance measurement approaches 1) Balanced Scorecard 2) Economic Value Added 3) Skandia Navigator. The second part is an overview about the rewarding and compensation systems in universities.

Empirical Framework/Foundation: Two structured interviews with university human resource employees and college director.

Conclusions/Implications: Through interviews, analysis of interview results and links with literature, we can see that although the two universities are located in different countries and under different political systems, the systems of both universities are similar in some respects, and they both think that non-monetary motivation is more important. But none of them has a standardized performance measurement system currently.

Acknowledgements

We would like to thank all the people who helped and supported us with writing this Master Thesis. We would like to thank our supervisor Gert Paulsson for all the instructions and advice given during the writing process. We would also like to thank to both involved universities and their representatives for their time and shared data.

Lund, May 28, 2019

………………………… ……………...................

Lu Jin Anqi Fu

1. Introduction

1.1. Background

With the development of management accounting, more and more companies will adopt performance measurement systems (PMS). According to Franco-Santos et al (2012), PMS is to evaluate performance for either informational or motivational purposes. However, PMS will not improve performance automatically, it is the way these systems are designed, developed and used that bring about performance. Specifically, PMS helps management find out the performance the company have at present and set a higher goal for employees to achieve later according to current performance. PMS can also be used for motivational purposes. If employees achieve the previous set goal, they can get reward. Reward system of company can motivate employees to work harder. And at the same time, company's performance will be improved as well, if employees achieve their higher goal step by step.

Although majority of literatures only discussed about how to use PMS in commercial companies. The usage of PMS is not limited to companies that are profit-oriented, it is also used by many non-profit organizations such as educational institutes. Why do universities measure and evaluate lecturers' performance? Universities, university graduates and professors influence the development of people and education. Universities have a significant impact on potential talents and leaders in the future. This impact is not only directly generated through education and knowledge transfer, but also indirectly generated through university management and its sustainable development performance (Adams, 2013).

Performance measurement system combines an array of financial and non-financial performance measurement tools. In the past, management only focus on financial data of organizations, while non-financial information is often neglected. However, management realize the importance of non-financial information at present. And as for educational institutes, non-financial information is significant because universities have many non-financial matters, such as student satisfaction and research ability. This means that non-financial oriented PMS is more suitable than financial one for educational institute.

1.2. Problematization

The main stakeholders of universities are students. They devote their spirits, money and time to get knowledge and reorganization from universities. The spirits, time and money are investments students invest in the universities. They want to get better educations for their future career. In this way, universities must improve their performance continuously to achieve the objective of being famous with good reputation and high in the rankings to satisfy the students. At present, researchers in performance measurement system used in companies are rich, while researchers in non-profit organizations like education institutions are scarce. However, there are still some related theses. Higgins (1989) mentioned that in recent years, interest in the field has increased significantly due to the pressures on public sector expenditure, especially the university sector. Xiaocheng Wang (2010) stated that the subject of performance measurement is very popular in the public sector because people are curious about how to comprehensively and effectively assess university performance. Johan Söderlind (2019) mentioned that scrutiny and assessments that include large number of performance indicators used to describe organizations, individuals, and their activities have become more common in higher education and research so that it is particular necessary to know how performance assessments affect the understanding of organizations' internal academic work, as this can have decisive results. As for reward systems, Wendelien Van Eerde(2015) said that reward systems are identified as one of the human resource management (HRM) practices that may affect staffs' motivation. It is important for doing research on how organizations motivated employees to maintain an effective workforce to achieve strategic organizational goals. Okinyi OM (2015) said that universities play a vital role in society because there is a link between investment in higher education and economic development. And at present, the retention of academic staff in public universities is still a problem. A high turnover rate is usually a sign of low morale, poor supervision, unsatisfactory work and poor working conditions.

1.3. Previous studies

There are some previous studies that focused on the implementation of the BSC in universities and higher education institutes such as the study of Farid (2008) and the study of Del Sordo (2012). However not many studies tried to assess the performance measurement systems(PMS) in universities which are non-profit organizations and compared PMS systems with two or more different universities in different countries. Meanwhile, the previous focus was on the application of PMS rather than assessment and improvement of the current one. In addition, we combine performance measurement system with reward system which can let us better understand PMS of universities. With these parts, our thesis more meaningful and practical.

1.4. Purpose and research focus

The goal of this paper is to find out the performance measurement system(PMS) currently used, the process of evaluating performance and the reward system of different universities, and finally make corresponding suggestions for the status quo. Our thesis focuses on analyzing PMS systems of different universities to gain experiences and improve each other, also making the process transparent for student so that they can improve their selection.

Information is collected through telephone and email interview. And interview questions are according to Ferreira & Otley (2009) and our needs.

The rest of the paper is structured as follows: First select the appropriate research method and then review the relevant literature review. Next, conduct research and analysis on the collected data, then discuss the research results and propose conclusions and recommendations for further research. Finally references and appendix is included.

2. Methodology and Research Design

The purpose of this chapter is to provide readers with the research method and design, the data sources used, the motives behind the methodological design and the limitations of the applied method. Section 2.1 presents the approach to choices of the case universities. Section 2.2 presents the data collection processes and the data sources used in this thesis. Section 2.3 illustrates the research method of this thesis. Sections 2.4, 2.5 and 2.6 present the literature review methods, data analysis and the general limitations of the research method respectively.

2.1 Selection of Cases

As the purpose of this thesis is to study the roles of Incentive Structure and Reward System in Performance Management, the selection of case universities is varied. In order to adapt to our research question, the case universities were required to be well-known, mature enough and have adequate resources to incorporate the traditional university culture as described in the background. Background information on universities was obtained by searching the online search engine Google. Through this research method, five universities were identified as possible prospects for our research. Besides, due to the cultural background differences in each region and country, when selecting case universities, we considered several universities in Sweden, the country where we studied, compared with well-known universities in other European countries and in China. These schools are Lund University and Uppsala University in Sweden, University of Amsterdam in the Netherlands as well as Peking University and Northeast Forestry University in China. And because we studied at Lund University and one of us studied at Northeast Forestry University, we can get information from these two universities easier.

Firstly, we contacted all Swedish universities by phone, and other universities were contacted via email. Information about e-mail addresses was available on the official websites of each university. The same email was sent to all the considered case universities, where we asked for interviews with representatives of the relevant human resource department. A positive response was received from two universities, providing access to one representative and contact information in order to interview. Our aim was to interview several respondents from many universities in order to gain a more comprehensive view, improve the credibility of research and make reliable analysis; and to deeply understand their views on reward systems and performance management from the perspective of respondents from different universities. Additionally, our plan was to send questionnaires via e-mail and do telephone interviews. Unfortunately, we only managed to get 2 interviews from universities, which will be further discussed in Section 2.6. To supplement the interviews, follow-up questions were sent to the representatives of the case universities by e-mail to clarify any uncertainties.

2.2 Data Collection

The data for this research has been collected from multiple sources, particularly primary and secondary sources.

2.2.1 Primary Data

Primary data is the information that researchers gather first hand. (Joseph, 2003) We conducted one survey at Lund University, and one survey at Northeast Forestry University, and collected preliminary data. Since it is irrelevant information to answer thesis questions, the respondents' age or gender is not asked. We first asked them about their background in the university, and then we started the questions related to the purpose of our thesis. The questions for the interviews were developed based on Ferreira & Otley (2009) and relevant topics derived from the thesis developed integrated theoretical framework. The interviews questions are presented in appendix 1.

2.2.2 Secondary Data

Published data is the information from secondary sources. (Joseph, 2003) And secondary data is more useful and less time consuming than collecting primary data (Bryman and Bell, 2013). We discovered our secondary data by reviewing different motivational theories, data from various reward systems, and related literatures and articles. These materials are mainly from our university online library, and we also use Google scholar to search for data using keywords such as incentives and reward systems. Using different methods to collect information and data will get better results because the interview results are subjective and the answers and opinions of the interviewees do not fully represent the school. However, the information given by the official website is exactly what the school thinks. In addition, we obtained information about the universities incentive system from universities annual reports by entering the official website of various universities to ensure the reliability and credibility of the data sources.

2.3 Scientific Approach

2.3.1 Qualitative Research

Quantitative research is based on statistical data and index analysis. The evaluation results are accurate and intuitive. Qualitative research is one of the commonly used methods to solve problems. It is described as a theoretical development method. It is inductive (Yin, 1994), while quantitative research is a theoretical test method. Some scholars believe that these two methods should be combined. Bryman (1988) stated that a `best of both worlds' approach and suggested that quantitative and qualitative approaches should be combined. Qualitative and quantitative methods complement each other. On the one hand, qualitative research is helpful to quantitative research. Punch (1998) and Christina emphasized that qualitative method is the basis of quantitative method, providing background information, which is assumed as a source. On the other hand, adding some quantitative evidence can help to conclude. Quantitative research makes it easy for researchers to establish the relationship between variables, and the combination of the two can achieve the best results.

The purpose of this study is to compare the performance measurement tools of Lund

University and Northeast Forestry University. The subjects of the survey limited the research, and our measurement tool is structured questionnaire. Consequently, it is not suitable for quantitative research. To sum up, qualitative case study is considered to be the most suitable method for this thesis.

2.3.2 Interviews

We were grateful to have done two successful interviews and recorded them. The questions in the survey can be structured or open. In this interview, we used open questions instead of structured questions. The questions are based on theory of ‘The design and use of performance management systems: an extended framework for analysis’(Ferreira. 2009). Although the downside of open questions is that it makes assessments more complex and time consuming (Nordberg, 2000), we can obtain more detailed and comprehensive information from the answers. Every interview was about twenty minutes to make it effective as well as avoided taking up too much time from these respondents’ working time. The interviews questions are presented in appendix 1.

2.4 Literature Review

The literature presented in this thesis has been thoroughly screened to meet the purposes and issues of this paper. These literature reviews are not comprehensive descriptions of the general theory of the subject being studied, but rather a detailed description of the theoretical framework that is considered to be most relevant to the purpose of our thesis research.

We evaluated the relevance of performance management theory through a preliminary study of incentive policies and systems in the annual reports of the various case universities. It made us have the ability to narrow down the search-related literature to ensure the accuracy and usability of these documents and articles during analysis. The basis of our comprehensive theoretical framework is Franco-Santos et al (2012) literature that had laid a good foundation for our research and covered issues related to performance measurement system. The framework of Ryan & Deci(2000) was used to provide a more detailed and specific source of the role of incentives and motivations. Finally, Cerasoli et al(2014) was used to supplement Ryan & Deci(2000). The above theories together constituted the overall theoretical framework of this paper.

2.5 Data Analysis

Yin put forward some techniques in 2009, such as interpretation construction, pattern matching and cross-case synthesis. We have adopted case synthesis to analyze and identified potential similarities or differences in comparative case universities.

2.6 Limitations of Research Method

Although we believe that case study is the most suitable method for our research, there are still some limitations. First of all, we sent emails to selected universities in Europe, but only received very few responses. Meanwhile, many of the universities' calls were not in use or unreachable, hindering the process of collecting data and whether there is sufficient data to analyze the research. Therefore, we have only interviewed two universities; they may not be representative due to few interviews. Secondly, because the number of cases in this paper is small, the results may not be applicable to universities in some countries or regions. Our goal is not to fully describe the performance measurement system at the universities, but to analyze how these universities motivate employees, retain talents and highlight the challenges faced by some universities in designing performance measurement systems. We believe that the empirical results of this case study will still help broaden the universities' knowledge base in the field of management control, although we lack the ability to summarize the findings.

There were three universities responding, two of the universities responded positively; in another case university, the human resources manager suggested by phone that we visit the university's official website, which posted comprehensive, up-to-date information. If we need additional information, he would support us later. So most of the information we used at that university came from the university's website as secondary data.

Moreover, since there are only two research universities, in order to highlight the representativeness and comparability, we have added information about the performance measurement system and rewarding system of additional three universities.

2.6.1 Validity and Reliability

In our research, we used a variety of sources, including interviews and secondary data. The questions interviewed by each case school are the same. The purpose is to collect comparability of data. However, we only obtained primary data from one representative of each case university, which may have a negative influence on effectiveness and make the individual's subjectivity a significant factor.

To ensure reliability, we retain all the answers that representatives answered during interviews and send follow-up questions via e-mail when uncertainties arise in interpreting the data they represent. On the other hand, the latest relevant information about other universities' performance management and incentive systems was found directly from the University official websites, so the information is reliable.

3.Theoretical Framework

The quantifying actions that organizations manage something and be able to measure it and express it in numbers can be described as performance measurement (Neely, 1995). Also, Alach (2017) insisted that the definition of performance measurement is broad, and it focuses on the use of performance information, control and management (Kloot and Martin, 2000; Broad Bent and Lughlin, 2009; Bisbe and Malagueno, 2012; Bititcietal, 2012). Performance measurement is regarded as a way to improve the efficiency and accountability of bureaucratic public sector organizations (Vansluisetal, 2008; McAdametal, 2011; Forrester, 2011; Poister and Streib, 2005).

Within the performance measurement system, there are many key performance indicators (KPI). And some KPI are related to financial perspective and others get involve in non-financial perspective. Del Sordo et al. (2012) stated that companies focus more on financial measures in the past because it’s more straightforward, while non-financial aspects are neglected. But with the continuous development of management accounting, management realize the importance of non-financial information. Non-financial measures like students’ satisfaction and teaching quality are more important than financial perspective like profit margin, return on investment (ROI) and etc. The difference existing is because of the characteristic. The objective of commercial company is to earn money and maximum shareholder’s value, therefore they should emphasis more on financial perspective. But as for non-profit organization like educational institutes, their goal is to provide better service or fulfill different targets so that they don’t care money or financial perspective that much.

Alach (2017) referred to the maturity model for the study of comprehensive performance measurement in a national set of universities. The model is comprehensive that adheres to purpose and rationality (Boyne and Chen, 2006; Taylor, 2009), rather than symbolic, perception of performance measurement (Roy and Segun, 2000; Modell, 2004). This model consists of seven elements. Element One of the maturity model (Alach, 2017) mentions “usage of performance information in decision making, including trade-offs in performance frameworks to facilitate organizational action, and decision makers must use performance information.” When managers want to further improve university performance management to improve decision-making and efficiency, they need to consider as well as balance and use related performance information such as student feedback as a reference. This is why student feedback is significant to university's performance measurement.

Since our case universities involve Chinese universities, we studied the background of Chinese universities system. The governance system of public universities and middle managers in China is somewhat different from the governance models of Western universities. Since 1949, China has been implementing a highly centralized bureaucratic management model. In every public university in China, the party's standing committee is the highest decision-making body, and the principal is responsible for the executive committee's policies/decisions and administrative affairs (Morley, 2018). The "middle-level manager" is defined by the Chinese government as the managers and principals of the middle-level work of the university administration. About half of the managers of Chinese public universities are middle managers.

Additionally, the purpose of decision making for performance evaluation relies on collecting information to support administrative decisions, such as promotion and salary increases (Milliman et al. 2002). Recently, performance data has been used in the recruitment, evaluation, promotion and rewards of university managers in China.

In order to evaluate the performance of all managers in China's public sector organizations, including the middle managers of public universities in China, the Party has set five dimensions of performance criteria: managerial ethics, work ability, diligence, work achievement and integrity (Wang 2015). As far as middle-level managers of Chinese universities are concerned, the Ministry of Education focuses on evaluating their management performance according to five dimensional criteria. However, Wang (2015) pointed out that there is a lack of empirical research on the purpose of implementing performance evaluation in Chinese context; few empirical studies use these criteria to test the influence on performance evaluation since they are lack of support for effectiveness and reliability (Jia 2015, Morley et al. 2018).

Moreover, the performance of university managers is influenced by external factors. Morley, Cooke and Bian (2018) emphasized the effect of country-specific institutional and cultural factors on the career choices of middle-level university managers. Morley, Cooke and Bian (2018) pointed out how these managers prioritize their roles and interact with other stakeholders, and how to maximize their own benefits and interests. Their decisions will affect their work level and job performance.

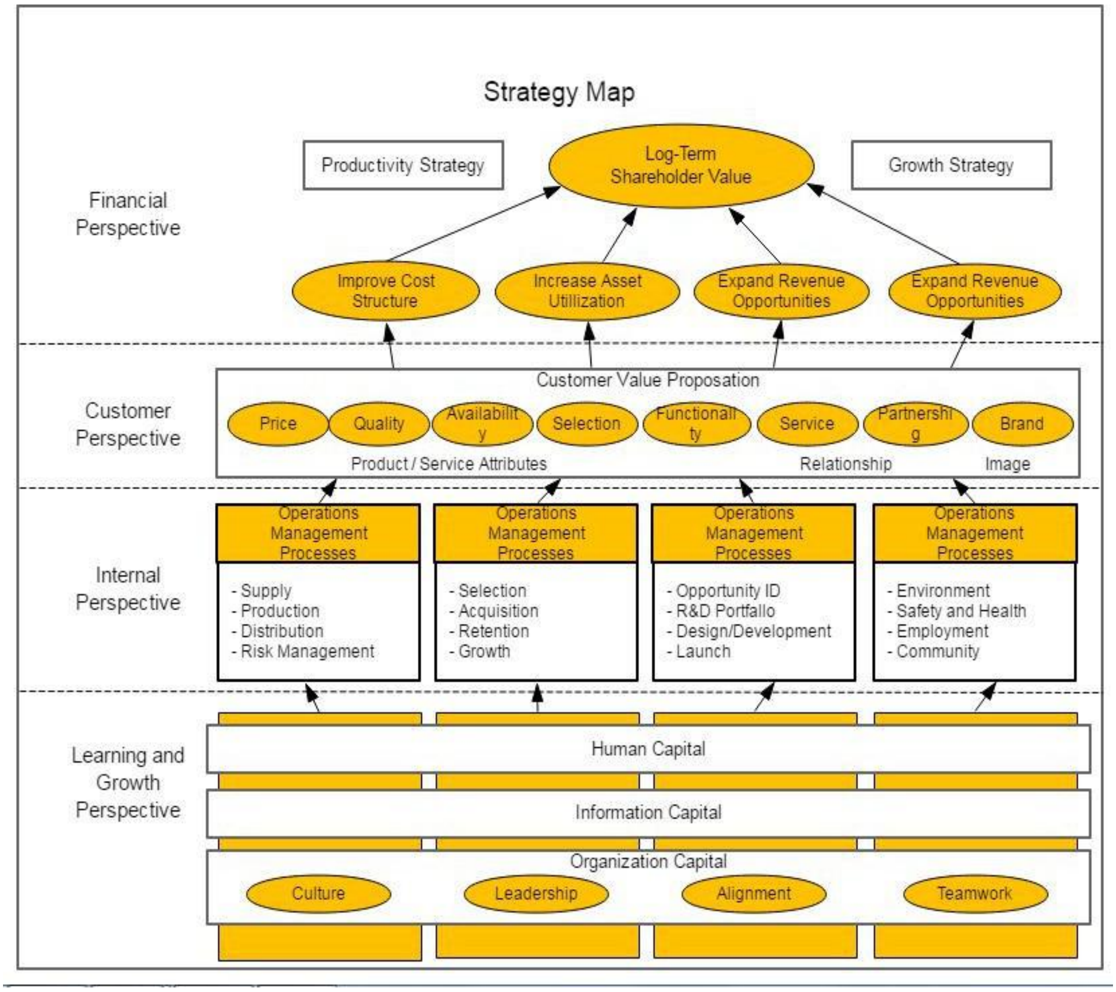
However, it is worth noting that even without a well-designed performance evaluation system, some academic managers may still be able to do a good job. Similarly, despite the strict state control over university management, especially financial aspects, many academic managers still have considerable space to generate and guide resources in order to bring benefits to themselves and universities, and satisfy their altruistic desire to both do a good job and make contributions (Morley et al. 2018).

3.1 Performance measurement approaches in universities

Three performance measurement approaches are going to be described in this section of theory: 1) Balanced Scorecard; 2) Economic Value Added; 3) Skandia Navigator.

Kaplan & Norton (1992) states that balanced scorecard (BSC) is like the dials in an airplane cockpit because it gives managers complex information at a glance. Since managers need to be able to view performance in several areas simultaneously, BSC is necessary for many companies. Actually, BSC can provide executives with a comprehensive framework that translates the company's strategic goals into a coherent set of performance indicators. Kaplan and Norton (1993) supported that BSC is not only a measurement, but also a management system that can drive breakthrough enhancements in key areas such as products, processes, customers and market development. BSC complements traditional financial indicators with measures of performance for customers, internal processes, and innovation as well as enhancement activities (Kaplan and Norton, 1993).

For Sveiby (1998), traditional systems are characterized by short-waves that create value by trying to improve existing processes. But BSC is characterized by long-term creation, including attempts to improve processes through innovative solutions to meet the emerging needs of current and future customers. Kaplan & Norton said that Balanced Scorecard monitor organizational performance against strategic goals. It means Balanced Scorecard can measure companies' performance and improve their performance to reach their targets. From four different perspectives, they can get both financial measures and non-financial measures of a company and make adjustment in different perspectives to improve the whole performance. According to Niven (2005), in the next few years, many organizations adopted the BSC and achieved immediate results. However, unlike the original approach, these companies not only use the tool to supplement financial metrics, but also communicate their strategies through the measures they choose through your balanced scorecard. Based on Balanced Scorecard, they also come up with a theory called strategy map. According to Kaplan and Norton (2000) , strategy map is a diagram that describes how a company or organization can create value by linking strategic objectives in a cause and effect relationship. It has more specific elements for measurement, compared with Balanced Scorecard.



Economic value added (EVA) is the “new” financial measures as well as one of value based management framework. The idea behind EVA is that shareholders must be rewarded to compensate for the risks they bear(Girotra & S.Yadav, 2001). Broadly speaking, EVA is a variation of residual income that can be adjusted by adjusting the calculation of income and capital. However, in another study, Biddle et al. (1999)

provided empirical evidence that EVA incentives managers to create shareholders. Value, and companies that use EVA-based incentive programs tend to increase capital allocation. Broadly speaking, EVA is variation of residual income which can be adjusted to how one calculates income and capital. In another study, Biddle et al (1999) provided empirical evidence that EVA incentives managers to create shareholder value, while companies using EVA-based incentive programs tend to increase capital disposal and reduce new investments, resulting in Higher capital turnover.

But EVA is not suitable for non-profit organization like educational institutes. For a university, intangible asset and intellectual information like professional skills and students' loyalty could not be evaluated, if EVA is used. EVA focuses on evaluating financial perspectives. Also, EVA has another limitation. EVA only focuses on past financial data rather than future objectives. All in all, EVA should not be used when making performance measurement of non-profit organization. EVA is one-sided and ignores non-financial aspects.

To solve these problems, intellectual capital which is known as Skandia Navigator should be introduced. Model "Skandia Navigator" developed by L. Edvinsson (1997) evaluates the intellectual capital of a company in terms of "creating value". Intellectual capital is the sum of human capital and structural capital. It measures organizational experience, technology, customer relationships, professional skills that provide a competitive advantage, which suits educational institution a lot. Skandia Navigator measures how much and how efficiently intellectual capital creates value based on the relationship between the dimension. The Skandia Navigator consists of five dimensions of an organization: financial focus, customer focus, process focus, renewal and development focus as well as human focus. In different focus, it has different drivers. For example, universities can measure its professional skills in human focus. Through Skandia Navigator, critical success factors can be identified and improved based on vision, strategy and strategic objective.

3.2 Rewarding system in universities

Rewarding system means that rewarding employees with good working performance. Viswesvaran and Ones (2000) defined work performance as measurable actions, behavior and outcomes that employees engage in or bring about that are linked with and contribute to organizational goals. Performance is also defined as employees' capability to accomplish their jobs (Poernomo andWulansari, 2015). Motivation is a powerful tool that reinforces behavior and triggers ongoing trends. It is also a process that begins with psychological needs and stimulates the performance set by the target (Dobre, 2013).

It's necessary to have an efficient reward system in every company as well as university. With efficient rewarding system, management can motivate their employees to work better to reach the target and improve the whole company's performance finally.

Applying suitable reward system, one possible mistake is not linking measures to strategy (Ittner, 2003). In university, the management will reward professors for publication and their dedication to research. But the management really want is that professors do not ignore their responsibility for students who are their customers (Kerr, 1995) . The reward management system plays an important role in the work. It has a significant impact on the organization's ability to capture, retain and motivate high-potential employees and as a result of acquiring high levels of performance (Gungor, 2011).

Bevilacqua & Soost(2009) propose theory of paying for performance. Paying for performance is one of rewarding measures that can motivate employees to work harder. For organizations like universities, paying for performance is not that popular. Employees often have different titles like senior professors and etc. Professors have different titles based on different levels of educational level, abilities and experience. The title is considered an honor. Using different titles to motivate teachers can also be considered as an external incentive.

According to Ryan & Deci(2000), there are two general motivations: intrinsic motivation and extrinsic motivation. The reward of intrinsic motivation is the activity in itself because it's inherently interesting and enjoyable. However, many activities people do are not motivated intrinsically. At that time, cash and bonus will be used to motivate employees extrinsically. As is known to all, individual performance is affected by both internal and external factors. Internal factors contain intelligence, work discipline, job satisfaction, and job motivation. And external factors involve leadership types, work environments, compensation and the management system applied in the company (Emerald & Genoveva, 2014).

In most companies, extrinsic motivation and intrinsic motivation are combined to motivate employees. But for different kinds of employees, different motivation plans should be applied. Cerasoli et al(2014) has provided the idea about 'incentives for different tasks'. In a company, there are two types of tasks: quality-type task and quantity-type task. Quality-type task indicates the task that has high degree of complexity and need more skills and personal involvement. Also, quantity-type task is the task which is low in complexity and need less personal skills and involvement. Tasks that are straightforward, highly repetitive, and perhaps even less inherently enjoyable, should be more closely linked to extrinsic incentives. However, tasks that require a great deal adsorption, personal investment, complexity, and overall quality should be less linked to incentives and much more closely linked to intrinsic motivation. Teaching is considered to have high degree of complexity and need more skills so that professors should be motivated more intrinsically. Meanwhile, 'crowding out' theory should be mentioned. Too many extrinsic incentives may crowd out employees' intrinsic motivation. College should give certain extent extrinsic incentives to professors like bonus and make internal incentives play a bigger role.

4. Empirical Framework

The main purpose of this thesis is to compare the performance measurement indicators used by different universities and the incentive and punishment measures for employees, and to point out the advantages and disadvantages of performance management system and incentive system. This is done by analyzing and comparing the primary data collected from two universities and secondary data collected from another three universities. Representatives of the two universities interviewed were Bo Li, the director of the School of Economics and Management in Northeast Forestry University and Ann Silbersky Isaksson, the director of human resources in Lund University. The primary data we interviewed from two universities is more detailed than the secondary ones we got from other three universities, but all had the accuracy. Additionally, the results of the survey reveal from different perspectives how universities measure their performance in different national and cultural contexts. In the empirical framework and analysis part, we analyze the relevant theoretical framework of case studies and put forward suggestions.

4.1 Interview results

These descriptions reveal the descriptions of the two universities in order to maintain the reader's objective mind when reading the paper and avoid prejudices that may arise from previously known knowledge. All interviews are conducted by calling senior management first and then by email.

Northeast Forestry University is one of the national top universities with coordinated development of multi-disciplines, ranking among the first batch of "211 Project, world-class university construction universities" in China, and it is a tripartite university built by the State Forestry Administration, the People's Government of Heilongjiang Province and the Ministry of Education. The ratio of lecturers to students at the university is 1:12.4; the proportion of foreign students is 0.9%. In recent years, this university's work efficiency is very high and its strategies are constantly changing to meet the needs; the university has attached importance to more and more international exchanges and cooperation.

Lund University is also a public university with a long history. It is usually considered one of the best universities in the country. The ratio of lecturers to students at Lund University is 1:9.

4.1.1 Findings from interviews of performance measurement systems used

These two universities have different performance measurement systems. On the one hand, as one of the public universities in China, Northeast Forestry University has a system of performance measurement that is consistent with other public universities and is formulated by a unified national policy. The performance measurement index of the university pays attention to the transparency of evaluation methods, and the setting of evaluation indexes takes into account the commonness of different lectures, so as to achieve the comparability of measurement indexes. Additionally, there are also some performance measurement elements for professors. For instance, the course evaluation is one of the elements. Students will be asked to evaluate the professor of the course after they complete the course. If the students fail to give timely feedback to the course and related professors, they will no longer be able to find their own results on the school's official website after the examination. In other words, the professors' assessment is mandatory for students, it can be collected more comprehensive and efficient data of course evaluation results. On the other hand, Lund University pointed out that the university has performance indicators for performance evaluation, but it is not a structured performance indicators system, which means there is no formal system. In terms of education, the university has some elements of the performance measurement system. Course evaluation is very important for universities in China, and it also operates in a standardized way at Lund University.

4.1.2 Findings from interviews of performance measurement systems process

In the performance measurement system, all incentives follow the actual performance evaluation. These evaluations have unified criteria. Bo Li emphasized that the assessment system must be unified, fair and reasonable, strictly enforced, transparent and timely feedback. Every employee should be prepared for learning guidance assessment, focusing on student feedback, alumni feedback and employee feedback. Staff performance evaluation consists of basic data and questionnaires. The basic data are divided into teaching and scientific research. Among them, attendance (attendance, lateness, leave), workload, students' scores belong to teaching data; journals and articles published, award-winning grades and times belong to scientific research. The form of the questionnaires comes from the students' feedback and the colleagues' questionnaires. The questions on questionnaires are structural that usually include the level of language expression, the level of classroom teaching organization, adaptability, the innovation of teaching methods, the level of knowledge renewal, the level of moral accomplishment and so on.

Moreover, Ann emphasized that it has standardized what basic information is needed, and that there is no rigorous performance measurement process. It is a combination of informal and formal information, and allocates resources based on departmental size and other criteria, complementing the information on how the department operates. In addition, given the importance of student feedback, the school has a formal part of the feedback process and the curriculum evaluation has templates. Students' advice and needs are always on record and these feedbacks do influence next year's studies.

4.1.3 Findings from interviews of rewarding systems used

Move towards rewarding systems within University. Northeast Forestry University expressed that it attaches great importance to incentives for its employees. Bo Li believes that implementing the competitive recruitment system in universities is the most effective way to improve the incentive mechanism. Chinese universities are significant institutional differences from those in many foreign countries. For example, in China, it is quite difficult to dismiss a professor from a university, but this phenomenon is very common to many foreign universities. The initiative of the university is limited by various policies such as these personnel systems. Consequently, the university's professor management model is more inclined to be reasonable, fair competition, open recruitment for the community, and merit-based admission.

Bo Li pointed out only by fully mobilizing the enthusiasm and initiative of professors can have efficient and innovative work. The incentives of the Northeast Forestry University mainly include monetary rewards and spiritual incentives. The university can provide employees with a certain amount of one-time bonuses, although the amount is not large, but it still has its effect. In addition, Bo Li also said that the university offers some non-monetary bonuses for lecturers and other employees. For example, excellent employees can participate in domestic and international scientific research or projects, enabling them to share and improve their knowledge; they may also have the opportunity to participate in the selection of national talent plan policies, such as the "Thousand Talents Plan", " Thousand Young Talents Plan", "Changjiang Scholars Award Scheme" and so on.

There are similarities between these two case universities because Lund University also uses personal wage settings; there is a performance-based annual wage incentive, albeit with a small increase in wage growth. Further, Ann mentioned that the significance is the strong informal incentive system, such as changing professors' titles, rather than a strong financial influence on professors and other employees. Some employees pay more attention to the intrinsic motivation. These individuals have inherent interesting, they are eager to publish more articles and feel enjoyable when working. Consequently, improving the academic abilities and pleasure during the work are their rewards.

4.1.4 Findings from interviews on advantages and differences comparing to other universities

Because Northeast Forestry University has already had a certain reputation in the domestic, in recent years, the university has continuously introduced new courses, participated in more and more international exchange programs, established a strong university reputation and popularity, increased competitiveness, and effectively attracted more students. Further, this university's current performance assessment has an advantage that is not too tolerant and not too strict, which can reduce the excessive work pressure on employees.

However, the basic environment of the Northeast Forestry University follows traditional university standards and national policies, much like other Chinese public universities. Compared to other private universities in China, university management acknowledged that it is difficult for the university to make significant innovations and changes to the performance measurement system because its performance appraisal system must follow national policies.

Taking Lund University as an example, the basic environment is consistent with the traditional Swedish standards. In terms of performance measurement, it is not very competitive because the traditional Swedish universities are similar. However, Lund University pays more attention to the combination of trust and high degree of commitment in having a good performance measurement system, which is effective. Moreover, Ann stated there is a high degree of job security within the university to make employees feel safe and do their best work.

4.2 Other case universities results

Since there is little primary information provided through schools interviewed, in order to make the comparison stronger, we have found three universities to compare. All data are obtained from the university's official website.

4.2.1 University of Amsterdam

University of Amsterdam is a comprehensive university with a long history. It is a world-class university, and has an extremely high reputation in Europe. The ratio of lecturers to students at the University of Amsterdam is 1:10.3.

In the salary policy of Amsterdam University, the job classification system is divided into 18 salary levels, and there is no performance-based variable salary. There are additional allowances, accounting for 2.0% of the payroll, including personal allowances, pension compensation, and expense allowances. In terms of rewards, if candidates are found to have excellent qualifications and skills, the school will invite them to obtain permanent employment contracts to work regularly for the university. In addition, we note that the University of Amsterdam has a special welfare package for laid-off employees. To minimize unemployment benefits, the University of Amsterdam helps employees who are about to be laid off find new jobs as soon as possible before they lose their jobs.

Further, employee inspectors conduct a survey every two years to measure employee satisfaction, so as to better adjust and improve the school's performance measurement system.

4.2.2 Peking University

Peking University is the first national comprehensive university in China and the highest educational administrative organ in the country. This university is usually considered one of the best in the country. At present, Peking University has established a strong position in the field of education both at domestic and abroad. The ratio of lecturers to students in Peking University is 1:6.3. The number of full-time teachers in Peking University is astonishing. There are 7317 full-time teachers in Peking University, almost twice as many as other full-time teachers in other universities in the country.

In terms of performance assessment, the Human Resource Department of Peking University conducts annual assessment of all on-the-job employees every year. The annual assessment is based on the staff's daily work, the completion of specific business work and attendance. There are two kinds of objects for annual assessment: Teaching and research personnel pay attention to the assessment of education, teaching and scientific research; while non-teaching and research personnel focus on the assessment of work attitude and performance. Rewards and punishment are based on the annual assessment results that are divided into four grades: excellent, qualified, basically qualified and unqualified. After the assessment, the results will serve as a reference for employees to adjust their behavior, salaries and renew their employment contracts. There are various incentives for outstanding employees, such as salary increases, year-end awards, bonuses, allowances; non-monetary such as employees being appointed to higher-level positions, being commended, opportunities for further education, etc. On the contrary, the employees whose result is basically qualified have no year-end bonus; in terms of non-monetary salary, these employees are not allowed to engage in higher-level positions, but the school will provide relevant training to improve their skills. Peking University has power to unilaterally terminate the employment relationship of employees who fail to pass the annual assessment for two consecutive times.

4.2.3 Uppsala University

Uppsala University is the oldest university in Nordic region and one of the top universities in Europe and the world. It has a wide reputation and high evaluation in Nordic.

Uppsala University’s educational assessment is based on external and internal college reviews, involving students and doctoral students. The assessment combines ongoing quality assurance procedures and annual follow-up with a six-year educational assessment. The Disciplinary Areas and Teachers' Committees have developed forms and procedures for reviewing learning plans and annual follow-up. The model combines continuous quality improvement initiatives with annual follow-up and educational assessments. All bachelor's, master's and doctoral programs will be assessed at least every six years. The University of Uppsala research project review model is based on the following principles: decentralized and continuous quality improvement work; an exploratory assessment approach in which external peer review and academic worksheets are a natural component; students or doctoral participation; strictness, that is, the ability to identify and remedy defects; as simple as possible and cost-effective.

An internal review of the Uppsala University faculty assessment and assessments between colleagues helps to question issues that may be taken for granted in the subject area and to enhance the exchange of knowledge and experience within the university. The purpose of the external review is to ensure that the university's curriculum is subject to independent review and can be compared to equivalent courses in other higher education institutions. In addition to performance measurements conducted within the framework of the Uppsala University model, the Swedish Higher Education Authority also conducts assessments within the National Higher Education Quality Assurance System.

5. Analysis and Recommendations

It must be emphasized that the results of a survey conducted by two public universities, one in China and one in Sweden, which makes the study credible and persuasive. The research results of the two analyzed universities may not only be domestic, but also have some rationality of some concern at the beginning of the research. Admittedly, all the respondents recognized the contemporary issues of public university performance measurement system and rewarding system.

5.1 The performance measurement systems used

Bernard (2012) said that key performance measurements (KPI) are the vital navigation instruments used by management to understand whether their business is on a successful voyage. And this view also applies to universities. Xiaocheng Wang (2010) mentioned that KPI is very important for the organization because it can built competitive advantages over competitor in her paper. As far as Northeast Forestry University is concerned, KPI is used within the faculty, which are financial and non-financial indicators that organizations use to measure and fortify how successful they are, aiming previously established long lasting objectives. (Dragana, Milan and Rade, 2010) Higgins (1989) stated that performance indicators should be used to assess both inputs and outputs within the university in relation to its particular objectives. Meanwhile, related to whether they are essentially internal to the university, external, or operating performance indicators, performance indicators have been classified. To be more specific, internal performance indicators contain teaching quality, graduation rates and attraction of research funds, external performance indicators includes acceptability of graduates in employment, reputation judged by external reviews and publications by staff and citations and operating performance indicators cover staff workloads and so on. Higgins (1989) also said that acceptability of graduates in employment and support services such as libraries and central computing should have their performance measured as well. And most of these performance indicators are used in the five universities we discussed. However, Xiaocheng Wang (2010) divide performance measurement of university into two categories: university academic performance and university management performance. When it comes to teaching quality which is included in university academic performance, it seems better to get some feedback from students compared with the another method that measuring the output performance of students in relation to their input characteristics. After all, students are customers of this special organization. (Higgins, 1989) Both Lund University and Northeast Forestry University use the students' feedbacks as one KPI to measure the professor's performance. It is said that measurement system via KPI which put customers claims at the first place.(Dragana, Milan and Rade, 2010) The enhancement of interest in assessing the teaching performance of individual university lecturers definitely depends to some extent on the opinions of students and the evaluation of peer groups, department heads or anyone else. (Higgins, 1989) Northeast Forestry University also pay attention to teachers' attendance (attendance, lateness, leave), which is not common in Lund university. Professors in Lund universities have relatively flexible schedule. Northeast Forestry University also stress on workload which is reflected on students' scores and journals and articles published.

The author recommends skandia Navigator for several reasons. First, it focuses more on non-financial aspects of performance. Since Lund University and Northeast Forestry University are both public universities with no profit target, non-financial PMS is preferable. Secondly, traditional performance financial indicators avoid long-term thinking and do not reflect the current business environment. They also ignore intangible assets, which generate a large proportion of value in universities. On the other hand, skandia navigator encourages strategic thinking and links short-term initiatives with long-term goals, taking into account intangible assets and intellectual property rights. Finally, skandia navigator not only helps to overcome performance evaluation challenges, but also helps to implement organizational strategies. Since Lund University and Northeast Forestry University are public universities which have lots of human resources and intellectual resources, Skandia Navigator is very suitable for them. Some parts of balance scorecard (BSC) and skandia navigator are same because skandia navigator is evolved from Balanced Scorecard. (Anthony.2004) However, Skandia Navigator focus areas all add up to the intellectual capital value of the organization. (Leif,1997)

Through the analysis of the process used by the two universities, the author can see, on the one hand, Lund University and Northeast Forestry University have no formal PMS. Although, Skandia Navigator is a balance between information on past financial performance, information about today, including human resources and processes, and about tomorrow's renewal and development. (Leif,1997) However, the university does not use the skandia navigator as a tool for performance measurement, but different aspects of the skandia navigator can be identified in both cases. In addition, it can be seen that the student participation process is of great significance to both universities. Although public universities are located in different geographical regions, the performance measurement used by these universities is usually similar. On the other hand, the process at Lund University is somewhat structured, the same as the Northeast Forestry University, where the combination of both, formal and informal information is received and processed. However, even without performance measurement system (PMS), above universities still work successfully. So it is hard to say which performance measurement system (PMS) is best. But if any performance measurement system are needed, Skandia Navigator is the most suitable one according to special characteristic of University.

5.2 The rewarding systems used

Northeast Forestry University has limited financial support which are small and not systematic from the government because there are many public universities in China and the government has to support a large scale of universities. Same goes for Lund University, where employees rely on fixed wages with a small possibility of bonus increase depending on the individual performance. In the theory part, Cerasoli et al (2014) stated that employees from different levels in the university should have different kinds of motivations. The theory of "incentives for different work" state that people like professors who have high degree of complexity and need more skills and personal involvement should be given intrinsic motivation.(Cerasoli et al, 2014)

However, Deci and Ryan (2015) emphasized that the motivation can be divided into two parts. First one is intrinsic motivation that works for activities that are inherently interesting for individuals. It is important to note that, as revealed by 3.1, even without a well-designed performance measurement system, some professors are still able to do a good job. They still have considerable space to generate the resources in order to satisfy their altruistic desire to both do a good job and make contributions (Morley et al.

2018). Since it is some employees' inherently interesting, they usually feel enjoyable, the reward is the activity itself. The behavior of these individuals is self-determination. Another one is extrinsic motivation which is less enjoyable and employees need varies separate outcome; this motivation consists of direct incentives and indirect incentives; direct incentive has more controlling. Some of employees at these two universities may not work because of their love and enjoyment of their current positions, they need more external incentives. Therefore, the universities should set separate outcomes and specify goals, strongly encourage employees' behavior, and reward them if they achieve their goals.

However, a problem has arisen, which is about actions that should be rewarded. It is known from the interviews that Lund University and Northeast Forestry University pay great attention to student feedback. However, it is difficult to judge professors' performance only from the students' evaluation, since students' evaluation is quite subjective. Moreover, the two case universities, like Peking University, also use scientific research results such as the number of journals and articles published by professors to measure professors' performance. It is much easier to evaluate and measure their published papers, but these articles can only explain the academic ability of teachers and cannot reflect their true teaching ability. Some people may have a high academic level, but they are not good at teaching. Students are a real customer in the university. We believe that teachers should pay more attention on teaching responsibilities rather than publishing articles and only by giving students the best education can a teacher demonstrate his real teaching ability.

Most universities give training to staffs, but they were not keen on retaining staffs through promotion. In this way, he suggest a succession and promotion strategy be established and communicated clearly to staff so as to avoid resignation due to lack of promotion.(Okinyi OM 2015) For Lund University and Northeast Forestry University, they both have a clearly promotion for professors. Also Hymie(2000) stated one problem that incompetent professors protected by the security of lifetime tenure and he suggested the replacement of tenure with renewable contracts. More and more universities make renewable contracts with their professors, but lifelong professors still exist. Wendelien Van Eerde(2015) mentioned that the incentive system does not directly affect motivation and each system may have unexpected consequences, because of the psychological significance of salary. She also pointed out that it is important to consider that cultural changes may affect the reward system. It means that incentive mechanisms may vary from country to country and from organization to organization. Although it is still difficult to evaluate how incentive system affects motivation, the decision of reward system will affect the competitiveness of the organization and the happiness of employees.

5.3 The differences and advantages comparing to other Universities

Although Northeast Forestry University stated that it fail to make major innovations, it still follow traditional university standards. In addition, the school's performance appraisal is not too tolerant and strict to reduce the excessive pressure on employees, so that they can enjoy a more pleasant and relaxed working atmosphere to improve work efficiency. Lund University has mentioned in its interview that trust is combined with a high degree of work commitment. Since it is a public university, the level of job security for employees within the university is higher than for other private educational institutions. In this way, employees will get more security and become the internal motivation of their work.

Furthermore, both universities must use non-monetary rewards as the most significant measure to improve performance and students' satisfaction to gain greater competitive advantage than other universities in their own countries. Northeast Forestry University should not only strive to expand its scale, attract national students, but also improve its structured performance measurement system. Attracting and retaining the key experts and talents in the industry will give Lund University and Northeast Forestry University a greater competitive advantage in both their national and international fields.

5.4 Recommendations

Universities face significant challenges in establishing systems for performance measurement structures and assessments; it is difficult to achieve transformative and continuous change in senior management structures, since public universities do not have the spirit of innovation. The major transformational role of the university's senior management structure has not yet been realized, and the high-level leadership needed to achieve this structure has not yet been put in place (Adams, 2013). During the process of the research, we found few examples of true innovation and change in practice. Consequently, our recommendation is to maintain the process of change and to continue to maintain the leadership of the university as well as the entire organization. Universities need to improve both management structures and performance measurement system, and address challenges, including how to engage students more fully and actively in the performance evaluation and how to enable professors to improve their more formal and informal learning of students in the future.

Another recommendation is to involve the senior leadership and management in the performance measurement system. In many cases, university performance measurement is led by students or management team rather than a strategic direction led by senior management. While their leadership can also have a significant impact on measurement, the proactive support of university presidents and senior leaders is more influential and has a vital influence on the organization as a whole.

Furthermore, by studying the development of university performance measurement maturity in New Zealand, Alach (2017) found that there is a lack of evolution in university decision-making. Therefore, the improvement of university performance measurement methods plays a key role in university development. The fourth element of the maturity model indicates that the diversity, comprehensiveness and quality of public sector organizational measures are complex. Too few measures may lead to consistency, but may ignore the main areas of organizational activities. Consequently, both qualitative and quantitative measurements are necessary for universities to improve.

Element Seven of the maturity model (Alach, 2017) has pointed out that accurate and timely basic data is critical. Without accurate underlying data, any performance metrics framework has fatal flaws. Thus, whether it is through students' feedback or other ways to obtain data, universities must timely obtain accurate basic data. For example, if a lecturer is unsatisfactory to most students in a semester's course, but the university does not get feedback from the students in time, then the lecturer is likely to continue to have a negative impact on the new students in the next semester due to his quality of teaching. From then on, it will have an adverse influence on the reputation of this university.

6. Conclusion

University performance measurement has always been a topic of concern, but it has done less on more basic issues, such as how to conduct comprehensive performance measurement or how is the level of support for employees? In this study, two universities were selected as the main research objects; the performance management and the rewarding system were evaluated. Although there is a large conceptual framework for performance measurement in the literatures, university performance measurement is still an unknown area. Bevilacqua & Soost(2009) propose theory of paying for performance. Paying for performance is one of rewarding measures that can motivate employees to work harder. For organizations like universities, paying for performance is not that popular. Employees often have different titles like senior professors and etc. Professors have different titles based on different levels of educational level, abilities and experience. The title is considered an honor. Using different titles to motivate teachers can also be considered as an external incentive.

The data collected was based on non-representative and limited samples and was valid and reliable for this study. Since there were only two interviews, this study could not be extended to other institutions in different countries.

The master's thesis is based on a comparative case of performance measurement tools and indicators used by Lund University, Northeast Forestry University and other three universities. This paper points out the performance measurement systems of several universities and proposes improvements and recommendations. The research questions are related to the overall theme of performance measurement and effectiveness, as the primary purpose of this study is to compare performance measurement in the context of several universities .Although the processes to gather information are too difficult. Universities are so busy that they do not have enough time for deep discussions. The result is reliable because we both collect data from internet and interview.

Prior to this master's thesis, there was only a small amount of research on performance measurement systems used in universities. Judging from goals and research questions, the authors point out that this master's thesis has come up with the right answer. Through the interview process, the interview data was analyzed, and then connected to the research literature, expected goals were achieved, however it can be noted that these universities are working differently, with some aspects similar. This difference is most likely due to differences in political systems. In addition, authors and these universities agree that these universities do not have a standardized performance measurement system.

The author understands that the value of any research results depends to a large extent on the accuracy of the data collected. In this master's thesis, data quality can be trusted because the work is evaluated using research from reliable sources like relevant staffs and information published on official website.

Reference List

Abernethy M A, Stoelwinder J U. (1995) “The role of professional control in the management of complex organizations”, AOS; 20: 1-17.

Anthony Wall, Robert Kirk and Gary Martin. (2004) “Intellectual Capital: Measuring the Immeasurable?”, CIMA.

Ann Silbersky. (2019) Interview with the director of human resources, Head of division, Lund University.

Arvind Girotra and Surendra S.Yadav. (2001) “Economic Value Added: A New Flexible Tool for Measuring Corporate Performance”, Global Journal of Flexible Systems Management, Vol. 2,No. 1, pp 7-18.

Bernard Marr.(2012) “Key Performance Indicators (KPI): The 75 measures every manager needs to know”, Finance Time,Introduction.

Bisbe, J. and Malagueno, R. (2012) “Using strategic performance measurement systems for strategy formulation: does it work in dynamic environments?” Management Accounting Research, Vol. 23 No. 4, pp. 296-311.

Bititci,U., Garengo, P.,Dorfler, V.and Nudurupati, S. (2012), “Performance management challenges for tomorrow”, International Journal of Management Reviews, Vol. 14 No. 3, pp. 305-327.

Broadbent, J. and Laughlin, R. (2009), “Performance management systems: a conceptual model”, Management Accounting Research, Vol. 20 No. 4, pp. 283-295.

Bevilacqua CM, Singh P. (2009) Pay for performance – Panacea or Pandora´s box? Compensation & Benefits Review; sept/okt: 20-26.

Bo Li, (2019). Interview with the Counselor of School of Economic and Management, Northeast Forestry University

Bryman, A (1988) Quantity and Quality in Social Research, London, Routledge.

Carol A. Adams (2013) Sustainability reporting and performance management in Universities- Challenges and benefits. Sustainability Accounting, Management and Policy Journal Vol. 4 No. 3, 2013 pp. 384-392.

Cerasoli CP, Nicklin JM, Ford MT. (2014) “Intrinsic motivation and extrinsic incentives jointly predict performance: A 40 year meta-analysis”. Psychological Bulletin; february 3.

Christina Hughes, Qualitative and Quantitative Approaches, Department of Sociology, University of Warwic

Deci, Edward L and Ryan, Richard M. (2015). “ Diminished neural responses predict enhanced intrinsic motivation and sensitivity to external incentive”. Cognitive, Affective & Behavioral Neuroscience; 15(2): 276-286. (11p)

Del Sordo, C., Orelli, R. L., Padovani, E., & Gardini, S. (2012). Assessing Global Performance in Universities: An Application of Balanced Scorecard. Procedia-Social and Behavioral Sciences, 46,4793-4797.

Dobre, O. I. (2013). Employee motivation and organizational performance. Review of Applied SocioEconomic Research, 5(1), 53-60.

Dragana Velimirovića*, Milan Velimirovićb and Rade Stankovića. (2010) Role and importance of key performance indicators measurement. Serbian Journal of Management 6(1). pp:63-72.

Edvinsson L., Malone Mike S. (1997), Intellectual Capital, Harper Business Press, 1997

Emerald, T., & Genoveva. (2014). Analysis of psychological well-being and job satisfaction toward employee’s performance in PT Aristo Satria Mandiri Bekasi, Indonesia. Proceeding. Kuala Lumpur International Business, Economics and Law Conference, Kuala Lumpur, Malaysia 31 Mei-1 Juni 2014

Ferreira, A., Otley, D. (2009). The design and use of performance management systems: an extended framework for analysis. Management Accounting Research 20 (pp. 263 – 282), Elsevier LTD.

Franco-Santos et al (2012). Contemporary performance measurement systems: A review of their consequences and a framework for research. MAR; 23, 79-119.

Frey B. (1997) On the relationship between intrinsic and extrinsic work motivation. International Journal of Industrial Organization; 15: 427-439.

Greenwood R. Li ST, Prakash R, Deephouse DL. (2005) Reputation, diversification, and organizational explanations of performance in professional service firms. Organization Science; 16(6): 661-673.

Gungor, P. (2011). The relationship between reward management system and employee performance with the mediating role of motivation: A quantitative study on Global Banks. Procedia Social and Behavioral Sciences. 24, 1510-1520.

Hymie Rubenstein(2000) Rewarding University Professors: A Performance-Based Approach. Public Policy Sources. Number 44. ISSN 1206-6257

Ittner D, Larcker DF.(2003) Coming up short on non-financial performance measurement. Harvard Business Review; september: 88-95

J.C. HIGGINS. (1989) Performance Measurement in Universities.European Journal of Operational Research 38 (1989) 358-368

Jia CL. (2015) Study on perfection of assessment index system and evaluation mechanism in universities. Journal of Tianjin Normal University (Social Science) 6, 73–77.

Johan Söderlind & Lars Geschwind (2019) Making sense of academic work: the influence of performance measurement in Swedish universities, Policy Reviews in Higher Education, 3:1, 75-93, DOI: 10.1080/23322969.2018.1564354

Joseph S. Rabianski. (2003) Primary and Secondary Data: Concepts, Concerns, Errors, and Issues. The Appraisal Journal; VoI 71,Iss. 1. pp. 43-55

Kerr, S. (1995). On the folly of rewarding A, while hoping for B.

Kelly, J. and Swindell, D. (2002), “A multiple-indicator approach to municipal service evaluation: correlating performance measurement and citizen satisfaction across jurisdictions”, Public Administration Review, Vol. 62 No. 5, pp. 610-621.

Leif Edvinsson. (1997), “Developing Intellectual Capital at Skandia”, Long Range Planning, Vol. 30, No. 3, pp. 366 to 373,1997

Liu JR, Y Zhu and YZ Wang (2005). A rational analysis on the double-shouldered cadres in Chinese HEIs. Research in Higher Education of Engineering 6, 48–50.

Michael J Morley, Meng Wang, Fang Lee Cooke, Jiuping Xu, Huimin Bian. (2018). Scholars, strategists or stakeholders? Competing rationalities and impact of performance evaluation for academic managers in Chinese universities. Asia Pacific Journal of Human Resources , 56, 79–101.

Milliman J, S Nason, JH Zhu and H De Cieri (2002). An exploratory assessment of the purposes of performance appraisals in North and Central America and the Pacific Rim. Human Resource Management 41(1), 87–102.

Neely, A.D., Gregory, M. and Platts, K. (1995), "Performance measurement system design: a literature review and research agenda", International Journal of Operations & Production Management, Vol. 15 No. 4, pp. 80-116.

Niven, P. R. (2005) Balanced Scorecard passo-a-passo: elevando o desempenho e mantendo resultados. Rio de Janeiro: Qualitymark.

Nordberg , K (2000) Projekthandboken : metod och process . Borlange : Forlags AB Bjoren.

Oh IS and CM Berry. (2009) The five-factor model of personality and managerial performance: validity gains through the use of 360 degree performance ratings. Journal of Applied Psychology 94(6), 1498–1513.

Okinyi OM (2015) Reward Systems in the Public Universities in Kenya: Implication on Retention of Teaching Staff. Arabian J Bus Manag Review 6: 178. doi:10.4172/2223-5833.1000178.

Poernomo, U. D., & Wulansari, N. A. (2015) Pengaruh konflik antara pekerjaan-keluarga pada kinerja pegawai dengan kelelahan emosional sebagai variabel pemediasi. Management Analysis Journal, 4(3): 190-199.

Punch, K (1998) Introduction to Social Research: Quantitative and Qualitative Approaches, London, Sage.

Robert S. Kaplan and David P. Norton. (1992) The Balanced Scorecard-Measures That Drive Performance, Harvard business review, January-February.

Robert S. Kaplan and David P. Norton. (1993) Putting the Balanced Scorecard to Work. Harvard business review, September-October.

Ryan RM, Deci EL. (2000) Intrinsic and extrinsic motivation: Classic definitions and new directions. Contemporary Educational Psychology 25: 54-67.

Sveiby, K. E. (1998) A Nova Riqueza das Organizações. Rio de Janeiro: Campus.

Viswesvaran, C., & Ones D. S. (2000) Perspectives on models of job performance.

Wendelien Van Eerde. (2015) Wiley Encyclopedia of Management: Motivation and Reward Systems. DOI: 10.1002/9781118785317.

Xiaocheng Wang.(2010) Performance measurement in universities, Mater Thesis.

Zhivan Alach. (2017) The use of performance measurement in universities. International Journal of Public Sector Management Vol. 30 No. 2, 2017, pp. 102-117.

Zhivan Alach. (2017) Performance measurement maturity in a national set of universities. International Journal of Productivity and Performance Management Vol. 66 No. 2, 2017, pp. 216-230.

Appendix 1: Interview Questions

1. How is the staff turnover of this university in recent years? What are the main reasons for these flows? Is there a fixed performance appraisal system?

2. What are the organization's key performance indicators deriving from its objectives, key success factors, and strategies and plans? How these are specified and communicated and what role do they play in performance evaluation? Are there significant omissions?

3. What processes does the university follow for evaluating of professors and organizational performance?

4. What is the performance system of Lund University? And what are formal and informal controls in these processes. And how important are they?

5. Does the performance measurement system and incentive system have an impact on teachers' academic performance? What will professors' gain by achieving performance targets or other assessed aspects of performance or conversely, what penalties will they suffer by failing to achieve them? Does this university take the feedback from students into account in the performance evaluation of teachers and other employees?

6. How do you think this university should attract, motivate and retain key talents (teachers, senior managers, etc.) at this stage and in the future?

7. Are there any special measures (special positions, allowances, benefits) in key talents? If so, what types of incentives are available to assess teacher performance?

8. What do you think are the shortcomings of the current performance management system and incentive mechanism; and what aspects need to be improved?

9. How does Lund University go about setting appropriate performance targets for professors, and how challenging are those performance targets?

10. How is Lund University different than other universities in their academic performance? What advantages does it have?