

Rational and symbolic use of performance measurement. Experience from Polish universities

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Abstract

Purpose: This paper seeks to increase our understanding of the uses and users of performance measurement (PM) in the university context.

Design/methodology: Empirical data were gathered from four universities. This approach allows for a multi-level and comparative analysis based on neo-institutional theory. The results are discussed with the interdisciplinary literature on the use of PM in the public sector.

Findings: PM practices at universities have become increasingly popular on an institutional, group, and individual level. The results indicate that different types of PM are used in universities; the extent, and scope of PM use by various actors differs. Universities use often PM in a ceremonial and symbolic way, with the aim of legitimizing themselves externally, as research-oriented institutions. Consequently, PM practices are gradually becoming isomorphic. However, an analysis at the internal level reveals different attitudes, and some resistance, to the use of PM. In more traditional universities, the use of PM for rational decision-making is generally loosely coupled with the reporting performance for external accountability purposes. Moreover, the internal use of PM can be rational, but also symbolic.

Research limitations: This paper focuses on four case studies that are undergoing changes. The comparative analysis is supported by the use of different data collection methods and several in-depth interviews with key university actors.

Originality/value: We assume that the use of PM depends on an number of exogenous and endogenous factors. PM uses and users is discussed in the specific context of the higher education system in Poland. The four business school cases facilitate the comparative analysis of the similarities and differences in terms of PM uses and users in the context of traditional and entrepreneurial universities.

Keywords: Performance measurement, Universities, Institutional theory, Users, Uses, Poland

Paper type: Research paper

1. Introduction

Universities commonly measure and report their performance. However, the methodology of the performance measurement (PM) used to evaluate university faculty members and apply PM to allocate resources and increase transparency, credibility, and image can vary considerably. Traditionally, PM practices have played a developmental role in helping academic faculty enhance their future performance. Nonetheless, there has been a shift toward a more quantitative and objective approach in which evaluation is based on a great deal of quantitative information collected from past performance data (Guthrie and Neumann, 2007; Kallio and Kallio, 2014; Pettersen, 2015; ter Bogt and Scapens, 2012). This change in the performance appraisal has often been associated with a rise in new public management and a growth in managerialism in the application of private sector methods within the public sector. Prior accounting research has documented that PM practices have changed and become more sophisticated with the development of different technologies (Agyemang and Broadbent, 2015; Parker, 2011) (e.g. rankings, ratings, journal lists, performance indicators, balanced scorecards).

Many scholars and practitioners remain sceptical about the usefulness and relevance of PM for decision-making purposes. This is probably why the use of PM has, thus far, not attracted much attention, despite calls for more research on the topic (Moynihan and Pandey, 2010). Moreover, the previous research has focused on PM uses and users within the central and local governments (Ammons and Rivenbark, 2008; Hammerschmid *et al.*, 2013; Kroll, 2015). Few accounting studies have examined these issues at universities (Agyemang and Broadbent, 2015; Boitier and Rivière, 2013; Broadbent *et al.*, 2010; Pop-Vasileva *et al.*, 2011)

This paper highlights PM uses and users in the university context by answering three research questions: What measures are used? Who uses PM? How is PM used?

This paper makes three important contributions to the literature. Firstly, in a broader sense, the paper contributes to the public management and accounting literature. Although the number of empirical studies on PM use in the public sector has risen in recent years, overall, the number is relatively small, when compared to the general PM literature. Moreover, prior studies have focused on the external use of PM for external accountability purposes by public agencies and regulatory authorities, including politicians and the consequences of the introduction of performance driven judgmental quantitative performance systems (Broadbent *et al.*, 2010; Coy and Pratt, 1998; Osterloh, 2010; Agyemang and Broadbent, 2015; Kallio and Kallio, 2014). There has been some discussion regarding the external requirements of PMSs in the context of higher education institutions (Agyemang and Broadbent, 2015; Boitier and

Rivière, 2013; Broadbent *et al.*, 2010). To supplement this discussion, this study provides insight into how internal actors (e.g. university managers, administrators and academics) use PM in response to externally imposed regulations. Thus, the paper contributes to the growing academic debate on PM uses and users in the university context.

Secondly, this study focuses on PM uses and users in universities. The paper highlights that PM in the higher education sector is conducted for external and internal purposes. The accounting and management scholars have pointed out the different motivations for the use of PM and have distinguished between the rational and symbolic use of PM (Mouritsen, 1994; Tucker and Parker, 2015; Agostino and Arnabodi, 2017). The external use of PM is an attempt of accountability, and thus, has more symbolic characteristics than is intended to be used for operational and strategic rational decision making. This paper documents both the symbolic and rational uses of PM and highlights, when used internally, that PM can not only be used for the rational co-ordination of university operations and strategies, but that it can also be used at the symbolic level for the legitimization purposes of individuals (e.g. academics and university managers) and institutions (e.g. universities and departments).

Thirdly, most studies on the implementation of PMSs have been conducted in the UK, Australia, New Zealand, and Western Europe (Agyemang and Broadbent, 2015; Boitier and Rivière, 2013; Broadbent *et al.*, 2010; Coy and Pratt, 1998; Pop-Vasileva *et al.*, 2011; Modell, 2003; Narayan *et al.*, 2017). The current study will add to the growing international list of empirical studies on PM, in general, and the use of PM, in particular, by studying four Polish universities. These universities all have an aspiration to be recognized on the international academic stage. These institutional settings will provide some additional insight into who uses PM, as well as how it is used.

This research is based on four Polish business school case studies, where two of the schools are public universities and two are private universities. The empirical evidence stems from an analysis of the performance documentation and from interviewing academics and actors involved in the faculty management process. The analysis is explorative and interpretive in nature. We draw from the stream of the literature related to the motivations of PM use, as well as neo-institutional theory, to explain the positive and critical issues associated with the use of PM in the university context (Ramirez, 2006; Cai and Mehari, 2015).

The findings illustrate different trends toward using PM, at the individual, and organizational level, in the four universities under investigation. Different institutional pressures have become similar over time. This is mainly due to the need to comply with the external formal requirements emanating from the regulations and expectations set by various

accreditation agencies at the national and international levels. Internally, PM is used at the organizational level (e.g. university or department) by university managers, for ceremonial and symbolic reasons, in an attempt to legitimize the organization towards external stakeholders. PM is also used by university managers for decision-making purposes (i.e. allocation of resources, incentives systems). In addition, PM is used by individual academics to celebrate academic achievements. It is often part of an individual's strategy to develop a personal brand (image) and gain legitimacy and credibility as a researcher.

This paper is divided into five sections. The second section presents the literature review and the theoretical framework. The third section presents the research data, methods, and context. The fourth section presents the results. The discussions and conclusions as well as recommendations for future research are presented in the last section.

2. Theorizing the PM

Over recent decades, with respect to PM use research, we have now accumulated a wealth of knowledge in a diverse range of contextual settings. A number of theories and analytical approaches can be utilized to interpret the collected research material on the use of PM in public sector organizations and, more specifically, in universities.

2.1. The Rational and Institutional Views on PM in Public Sector Organisations

The classical perspective of the role of accounting in an organisation is a view of accounting within the paradigm of rational choice. The rationality associated with accounting tools and methods “can be seen as an important mechanism through which accounting technologies symbolise and instrumentalise a process of rationalisation of social practices” (Mouritsen 1994; Giddens, 1971; Holten and Turner, 1989). Powell (1991) argues that organizations are truly concerned with task performance and that the difference between formal structure (“appearance”) and actual operations (“reality”) is sometimes small enough. In the same vein, accounting changes introduced by new accounting and PM tools can provide relevant and useful information for decision makers (Otley, 2003, 2016; Abernethy and Bouwens, 2005; Moll and Hoque, 2011; Mouritsen, 1994; Odzil and Hoque, 2017). According to such a perspective, the focus on system efficiency and performance, in general, requires that organizational activities be monitored with the use of new accounting and PM systems. According to Ansari and Euske (1997, p. 552), accounting information is used as a tool in auditing choices between alternatives defined with present goals and classified as having a

technical rational focus. Rationality is intended as a goal-means consideration in support of a decision (Baxter and Chua, 2003, p. 112).

In contrast, many accounting scholars have highlighted the limitations of the classical Weberian rational choice approach and suggest that accounting, in general, and PM, in particular, may have many complex roles in organisations and society (Burchell, *et al.*, 1980). It has also been established that PM tools are adopted to meet the organizational needs for institutional, social and political legitimacy (Brignall and Modell, 2000; Modell, 2001; Tucker and Parker, 2015). In general, Mouritsen (1994) proposes that accounting systems contribute to the rational co-ordination of activities, but not always. PMSs often have unintended consequences that “abound partly because accounting operates in complex institutional settings where the location and the context of social interaction is important for explaining and understanding it” (Mouritsen, 1994, p. 196).

The most widely used theory, to date, to better understand PM practices and changes in those practices is neo-institutionalism. The study of institutions crosses the topics of sociology, politics, economics, and organizational theory, while the core assumption within the study is that organizations are rooted within the broader institutional context (DiMaggio and Powell, 1991). Therefore, organizational practices are either a reflection of, or response to, rules and structures built into a larger environment (Paauwe and Boselie, 2003, cited by Najeeb, 2013; 2014). This environment acts as a source of behaviours, norms, and incentives, but also, from another perspective, the sanctions and limitations of organizational activities. Thus, the organization does not determine its behaviours on its own, based on autonomous decision making as a response to problems; instead, organizations “tend to pattern their strategies on models and procedures that are widely recognized, accredited, and thus ‘institutionalized’ in the societal environment or organizational field” (Schriewer, 2009, p. 33) to increase their chances of survival.

Neo-institutional theory views accounting practices as one of a larger set of features that can legitimize organizations through the construction of an appearance of rationality and efficiency. Ceremonial and symbolic compliance with legitimate norms may have little impact, because a formal organizational structure is decoupled from the actual organizational process (Carruthers, 1995).

PM is often adopted in the public sector to satisfy the organizational needs for institutional, social and political legitimacy. These needs can become incoherent with rational motivations (Tucker and Parker, 2015). Several scholars have pointed out that accounting reforms are more rhetorical, and are often symbolic window-dressing, rather than the

production of new rational forms of institutional change (Modell, 2001; Mimba *et al.*, 2013; Agostino and Arnaboldi, 2017). Czarniawska-Joerges and Jacobsson (1989), based on examples taken by the Swedish public sector, depicted budgeting as a symbolic or ceremonial performance tool, rather than a decision-making process. They also stated that it is a means of conversation, rather than a means of control, and an expression of values, rather than an instrument for action (Czarniawska-Joerges and Jacobsson, 1989).

Previous studies show that both external and internal contexts play a crucial role in explaining how and why the adoption of a new PM tool may (or may not) be translated into practice, assume different features, and become institutionalized or not. Ter Bogt and van Helden (2000) have also illustrated that mandatory reform adoption does not necessarily bring about expected results, thus undermining the relevance of studying the institutionalization of a reform within an organization (Harun *et al.*, 2012).

Neo-institutional theory is useful for explaining the role of PM tools in ensuring that internal actors accept an organization (Grossi *et al.*, 2016; Hoque, 2005). PM tools cannot be forced top-down; instead, they need to be accepted at the lower levels of the organizations. Employees need to have the potential to impact the performance that is measured (Bouckaert, 1993). At the same time, achieving high legitimacy by internal actors may positively influence the implementation and use of PM tools (Moll and Hoque, 2011; van Dooren *et al.*, 2010). Such decoupling strategies could be employed by universities to defend the research autonomy (Narayan *et al.*, 2017)

2.2. Performance Measurement and Management in Universities

PM has been a relevant issue for public organizations from different areas, including higher education, not only because new public management has brought a stronger focus on output and outcome-oriented performance systems, but also because competitiveness has arisen within these organizations. Based on new public management-doctrines, PM practices arise as a way to “reinvent the government” (Osborne and Gaebler, 1993) and improve efficiency and effectiveness in public sector organizations (Hood, 1995). Accordingly, PM has been considered the main pillar of public management reforms in recent years (Almquist *et al.*, 2013; Johnsen, 2005; van Helden and Reichard, 2013; Walker *et al.*, 2011). There is a growing critical view among public management and accounting scholars, based on the assumption that some PMs are designed for private sector organizations and are not always suitable for the specific needs of public sector organizations (Broadbent and Laughlin, 1998; Broadbent *et al.*, 2001; Lapsley, 1999; ter Bogt and van Helden, 2000). Public sector organizations provide a variety

of activities and set multiple goals to address different basic needs (Ferlie *et al.*, 1996). Therefore, PM will require the consideration of both quantitative and qualitative profiles, as well as the different dimensions within those profiles.

A university is a very interesting context to study. During the past few decades, universities have implemented several changes at the national level that have had several effects at the organizational and individual levels. Since the performance of universities is frequently directly linked to the funds allocated to them, many universities spend considerable resources on the development of specific tools, allowing them to measure and communicate the performance of faculty in terms of research and teaching outputs (Agyemang and Broadbent, 2015; Boitier and Rivière, 2013). As in the case of other public organizations, management control systems enable universities to track how they are performing. Collecting and processing performance data enables organizations to set objectives and work towards meeting those objectives (Broadbent and Laughin, 2009; Chenhall, 2003; Chenhall *et al.*, 2010; Ferreira and Otley, 2009; Moynihan and Landuyt, 2009).

Control over research activity in universities is primarily based on the new public management approaches of PMM. Osterloh (2010) emphasizes that output control relates to the use of output performance indicators (e.g. citations, the number of articles published in peer-reviewed journals, and the number of PhDs completed) as a proxy for the output of researchers. The use of such output metrics makes it easier for external stakeholders to better understand the PM (Agyemang and Broadbent, 2015). From the internal stakeholders' perspective, management by results is based on quantitative, rather than qualitative, measures. This management style has negative effects on the motivation to engage in creative, knowledge-intensive work (Kallio and Kallio, 2014).

Ter Bogt and Scapens (2012) found that, in the case of Dutch and British universities, the use of judgmental quantitative systems has negative effects on teachers and scholars. This is because judgmental quantitative systems cause uncertainty and anxiety. As a consequence, they may also inhibit creativity and innovation in teaching, thus limiting potential contributions to the world outside the university. Nevertheless, PM systems seem to remain a dominant force in the public sector, despite their unintended and perverse effects (van Dooren and Thijs, 2010). When the quantity is valorised, potential perverse outcomes include the 'publication game,' in which "the rational response is to produce multiple publications that are small variations on a theme" (Lewis, 2014, p. 424).

The universities' PMSs are largely shaped by the needs of various external and internal stakeholders (Agyemang and Broadbent, 2015; Elliott and Goh, 2013). Guthrie and Neumann

(2007) notice that the establishment of a performance-driven system for higher education is determined by linking the governmental funding of universities with the assessment of the results. Hence, it is directed towards improving the quality of services provided by universities (i.e. in the field of teaching and scientific research).

Greater interest in reliable information about a university's performance, on the part of public institutions awarding funds for scientific research, stems from the reorientation of the government financing of universities. The change in financing especially applies to public universities, which have undergone a shift from being fully funded to partially subsidized (Guthrie and Neumann, 2007). In this way, universities become more open to the market and transform from being academically driven to market driven.

PM is frequently used to create university and journal rankings (Adler and Harzing, 2008; Brooks, 2005; Dill and Soo, 2005; Agyemang and Broadbent, 2015). Research journal rankings indicate the detrimental and dysfunctional impacts of their use in managing research (Macdonald and Kam, 2007, 2009, 2011; Mingers and Willmott, 2013; Parker *et al.*, 1998; Tourish and Willmott, 2015; Willmot, 1995, 2011). Lukka (2010) also points to the fact that the top international journals limit the scope of research by favouring research methods and imposing a narrow subject scope. Despite much criticism, journal rankings are used to manage the performance of academics for promotion and tenure decisions (Agyemang and Broadbent, 2015), but also to reward researchers for their achievements and motivate individuals to reach the desired level of performance (Ferreira and Otley, 2009; Ryazanova and McNamara, 2016; Townley, 1997).

PM use is essential for improving the quality of teaching (Ammons and Rivenbark, 2008). However, most studies focus on measuring students' satisfaction, rather than the quality of the teaching (Bedggood and Pollard, 1999; Bedggood and Donovan, 2011; Craig, 1995; Harnash-Glezer and Meyer, 1991; Kleiner, 1989; Lutz and Field, 1998; Sohail and Saeed, 2003). To date, studies in this area demonstrate evidence of such a claim (e.g. high evaluations of chosen tutors may be due to their popularity (Ramsden, 1990), expressiveness (Ware and Williams, 1980), or lower student requirements (Brookfield and Preskill, 1999)). Despite the criticism associated with this type of measurement, the results of the analysis are used in the process of university management. They constitute a key source of information when making decisions (e.g. study programs, scope of the presented material, personnel changes) (Bedggood and Donovan, 2011). Universities also monitor student satisfaction and analyse the professional lives of graduates and their satisfaction with studies (Yorke and Longden, 2004).

The implementation of PM, in the university context, could easily lead to protests and perverse outcomes. Accordingly, the design of PM systems, without considering the specific characteristics of the university context or without defining the main stakeholders, and without dialogue about legitimate performance indicators, could generate a loose coupling between daily work and formal PM systems, and thus, potentially cause considerable harm for university community. The success of the implementation phase is strongly affected by the capacity of the organization to engage all stakeholders, employees, and managers. Therefore, a good mix of bottom-up and top-down processes need to be balanced. As such, it is important to stress the logic of the implementation of PMS at all levels, at the risk of encountering a rejection, or the resistance by academic staff whose values may be contrary to the managerial values involved (Boitier and Rivière, 2013). Moreover, some scholars have argued the relevance of coupling between PM and organizational objectives. In contrast, other scholars have argued that the decoupling between PM and organizational objectives could positively determine the effective implementation of PM in political contexts (Johnsen, 2005). The most important questions are connected with the use of PM: How is PM used? Who uses PM? What external or internal factors influence the use of PM?

2.3.Theoretical framework

The topic of the PM uses and users, within the public sector, has recently attracted the growing attention of scholars (Ammons and Rivenbark, 2008; Grossi *et al.*, 2016; Jansen, 2008; Kroll, 2014; 2015; Melkers and Willoughby, 2005; Pollitt, 2006; Taylor, 2007). PM in public organizations is used by different groups of stakeholders, including politicians (Jansen, 2008; Moynihan, 2016; van Helden *et al.*, 2016), supervising bodies (Taylor, 2007), the management of particular institutions and their departments (Jansen, 2008, Kroll 2014; Grossi *et al.*, 2016), society (Jansen, 2008), the mass media, and individual employees.

Several scholars have focused on the possible uses of PM in their work (Behn, 2003; de Bruijn, 2002; van Dooren *et al.*, 2010). Behn (2003) proposes a categorization of eight managerial uses: evaluate, control, budget, motivate, promote, celebrate, learn, and improve. De Bruijn (2002) stated that PM could fulfil a number of functions, such as creating transparency, learning, appraising, and sanctioning. Johnsen (2005) focuses on the “obstacles” (or costs) of using PM, such as a lack of relevant data, measurement errors, low decision relevance, the proliferation of PMs, information overload, indirect lines of responsibility, no ownership of performance, loyalty to professional norms rather than to management, the manipulation of data, and creaming. Van Dooren *et al.* (2010) focused on the hard and soft use

of PM. In that study, hard use presupposes a tight coupling between performance information and decision making. Soft use is related to loose coupling, as a dialogue and an interpretation that mediates the final decision making process.

Other scholars (Agostino and Arnaboldi, 2017; Brignall and Modell, 2000; Mimba *et al.*, 2013) distinguish between the rational and symbolic (or ritualistic) use of PM. Rational use, in the case of the effective use for decision-making purposes, is useful for motivation and learning (Johnsen, 2005; Verbeeten, 2008). Where one stakeholder is dominant and PMS is related to his or her interest, PMS cascades down to the organizational hierarchy. Hence, it can be expected that PM is functionally used for decision-making purposes (Brignall and Modell, 2000).

Symbolic use is associated with ceremonial adoption and is used to ensure external legitimacy (Meyer, and Rowan, 1977). When two or more stakeholders with diverging interests are powerful stakeholders, some forms of the decoupling of the PM, between the top and lower levels of the organization, are likely providing the space for the symbolic use of PM and the “decoupling” of PM with their daily jobs (i.e. not using performance information for managerial and/or evaluation purposes) (Brignall and Modell, 2000; Johnsen, 2005; Hoque *et al.*, 2004). This implies that PM has a role in legitimizing the organization to its stakeholders, but is not really used as an input for decision making purposes (Mimba *et al.*, 2013). PM systems may be adopted by public sector organizations for ceremonial and symbolic reasons, apart from performance related issues (Tucker and Parker, 2015).

Previous studies on universities have also shown similar rational and symbolic use of PM. Alach’s (2017) study is related to New Zealand’s eight universities illustrates a relatively high use of PM and a strong alignment of strategy and PM. On the contrary, Melo *et al.* (2010) studied a high performing English university and showed that, despite the increase in the measurement of performance in several areas (mostly teaching and research), there seems to be a lack of action, especially regarding individual performance. Moll and Hoque’s (2011) study illustrates how the management of an Australian university attempted to change its internal budgetary system to meet the needs of external stakeholders and gain external legitimacy. Narayan *et al.* (2017) investigates organizational responses to emerging issues about accountability-autonomy tensions that can be managed within the context of university research commercialization in two New Zealand universities.

In our study, we decided to build a theoretical model (see Figure 1) that identifies users and uses of PM in universities, as well exogenous and endogenous pressures (factors) influencing the use. Based on the results of the previous studies, we assume that PM tools can

be adopted by universities for legitimacy purposes (i.e. external reporting to national authority or accreditation agencies) and be more influenced by ceremonial motivations, symbolic motivations, decision-making purposes (i.e. resource allocation, efficiency, bonus system) and rational motivations. We assume that the use of PM will depend on a number of influential factors, divided into two main categories: exogenous and endogenous factors (Cavalluzzo and Ittner, 2004; Grossi *et al.*, 2016; Saliterer and Korac, 2013; van Helden and Reichard, 2013). Exogenous factors are assumed to influence the use of PM. Exogenous factors include stakeholder expectations, external relationships, accreditations, rankings, and external evaluations. Endogenous factors are divided into two types: organizational and individual. Organizational factors are related to the university's culture (e.g. entrepreneurial vs. traditional), traditions, leadership position, and organizational structure (e.g., role of departments, PMSs' maturity, and faculty size). Individual factors that affect the uses of a PM system include personal motivation, reward expectations, training, familiarity with PMS, faculty position, experience, tenure, and rationality.

The empirical part of the article will explore the exogeneous and endogenous factors and investigate the manner and extent of they influence of the internal PM uses and users on four universities in Poland.

[Figure 1 about here]

3. Data, Methods and the Case Study Context

Qualitative research is useful for exploring phenomena, because it is sensitive to the context and sequence of organizational events and actions (Gephart, 2004; Pettigrew, 1990). Case studies are especially well suited to the dynamics of an organization (Eisenhardt, 1989). This study uses ethnography as a research methodology, constituted by multiple data collection methods (i.e. participant observations, interviews, archival sources). An ethnography is well suited for helping us to better understand the dynamics and process of the environmental change from which they emerge and are shaped (Adams and Larrinaga-Gonzalez, 2007; Ball and Craig, 2010; Liguori and Steccolini, 2014). It allows a researcher to engage with organizations and draw from the field rationale that could shed new light on how change unfolds over time and how accounting practices interact with the change process to enhance practice (Adams and Larrinaga-Gonzalez, 2007; Ball and Craig, 2010; Liguori and Steccolini, 2014). The closeness to the people, events, and natural practices within the context of the studies helps to produce a

rich and thick portrayal of life that is representational and interpretive. It can also persuade the reader that this is the real picture of a studied phenomenon (Putnam *et al.*, 1993).

The empirical part of our research is concerned with Polish universities. To conduct our case studies, we selected four universities located in different areas of Poland. These universities are all research intensive and are ranked “A” or “B” in the national parametric evaluation. However, only two of the universities (UniA and UniB) have received international accreditations (Table 1). The universities have different characteristics, in terms of ownership (two private and two public universities), histories, and sizes, in terms of the numbers of departments/faculties, students, and academic staff. The differences may have an impact on the role, uses, and users of PM in the universities. Universities with international accreditations are supposed to be more research oriented than universities without international accreditations.

[Table 1 about here]

The data for the case studies were collected through interviews and a wide range of documentary sources (Appendix 1). To minimize researcher bias and improve the trustworthiness of the data, this paper triangulates the data from internal and external archival sources that include university regulations, rector directives, minutes of senate and rector meetings, accreditation reports, committee meeting minutes, and research reports. A total of 40 semi-structured interviews were conducted at the four universities (i.e., fifteen at UniA, nine at UniB, eight at UniC, and eight at UniD) with university managers and academics of different genders, responsibilities, and experiences (i.e. rectors, deans, former deans, deputy deans, research oriented and teaching oriented, as well as junior and senior faculty members). The interviews were conducted in two rounds (i.e., spring 2017, summer 2017) and lasted from a minimum of 20 minutes to a maximum of one hour and 52 minutes. All interviews were recorded and transcribed by the authors. The interview questions (Appendix 2) revolved around: (1) the role and users of PM at the institutional, departmental, and individual levels; and (2) the uses of PM.

A data analysis was carried out with the use of a computerized tool, MAXQDA, by one research team member. The analysis was performed manually by the remaining team members. The differences were discussed to reach a unified conclusion about the issue under analysis. The data analysis helped to develop a narrative of how PM is implemented and used in the four

chosen universities. Special attention was paid to the analysis of the rational and symbolic use of PM (Appendix 3).

4. Findings

4.1. The National and International Actors and Their Performance Interests

Two parliamentary acts regulate Poland's higher education system. The Parliamentary Act, Law on Higher Education, established in July 27, 2005, regulates the higher education system in Poland. The Parliamentary Act of March 14, 2003, focuses on academic degrees and academic titles in the area of arts and regulates matters related to obtaining academic qualifications. The General Council of Higher Education cooperates with the Ministry of Science and Higher Education (MSHE), as well as with other governmental bodies, to develop the state's educational policy in the area of higher education. The council is responsible for defining the fields of study and developing educational standards. These standards are then implemented in accordance with a separate regulation by the MSHE.

One of the features of the Polish higher education system is that the responsibility for the quality and standards of the qualification structure is split between the Polish Accreditation Committee (PAC) and a national commission, the Central Commission for Academic Degrees and Titles (CCADT). These organizations are responsible for PhDs, Dr. habil., and the academic title of Professor. The PAC is the only statutory body in Poland responsible for the assessment of the quality of education provided by higher education institutions through program and institutional evaluations. The PAC advises the Minister of Science and Higher Education on institutional proposals to award bachelor's and master's degrees in new fields or at higher levels. The CCADT advises the minister on the application for the right to confer both levels of doctoral degrees (PhD and Dr. habil.) to organized fields of study and directly assess applications for the Dr. habil. degree and professorial title through the ad hoc committees it nominates for each case.

The excellence of the scientific units of higher education institutions is monitored by the Committee for the Evaluation of Scientific Units (CESU), a consultative and advisory body to the minister. The committee's main task is to draw out the project parameters and criteria for the comprehensive evaluation of scientific units and to perform such an evaluation at least once every four years. The committee indicates to the minister the leading scientific units, taking into account the quality of their scientific activity, to determine the level of financial support granted to fund their research potential.

The final evaluation score of the scientific unit, the result of the pairwise comparisons within the Assessment Common Group (ACG), grants each unit a scientific category. The point of reference for the categorization of the scientific units is the score received by the reference units within categories A and B. It is also important to note that the scientific units with an assigned A+ category are at the forefront of the scientific research and research and development community. Those institutions are selected by the evaluation teams through the implementation of an additional set of criteria, such as belonging to 25% of the highest rated scientific units within an ACG or the outstanding quality of the conducted research and the effects of their implementation (Journal of Laws, 2015).

4.2. The Types of PM Implemented at the Four Universities

To better understand the functioning of the PM system in the four universities, the interviews were conducted with a focus on the main activities that compose a university's mission (i.e. research, teaching, third mission). A summary of the findings are presented in Tables 2, 3, 4, and 5.

[Tables 2,3,4 and 5 about here]

Despite the differences in the length of using the PMS as the main motivation for development, the main features of the systems are quite similar, focusing on three aspects of performance: research, teaching, and contributions to society. External factors seem to be the main reasons for the implementation and use of PM in all four universities. The PM systems at all universities tends to be driven by the expectation of the main external stakeholders to track and measure strategic goals, targets, and achievements. One major difference is related to the definition of the main stakeholders, as reflected in the strategies of the four analysed universities. In the case of the two public universities, it seems that the Polish MSHE, as the main provider of funding, alongside the state accreditations and evaluation committees, are the main drivers for implementing the PM.

In all four universities, PM is related to research, teaching and a third mission. PM is mainly decided in the interactions between the departmental and central administration, as part of the internally developed PMS. Some of this information has to be prepared and delivered for an external assessment by national actors (i.e. MSHE, PAC, CESU, ACG, CCADT, accreditation agencies). In UniA and UniB, it also needs to be prepared and delivered by

international accreditation agencies. In the case of internationally accredited schools, internal accreditation offices often play a mediating role in the design and implementation of teaching performance measures related to individual academics and departments or faculties.

Research performance constitutes an important element of PM systems in all universities. In all four cases, the performance measures of research are connected to individual and organizational outputs, such as the number of publications or journals listed in national rankings, participation in conferences, as well as grants and awards. For the two universities (UniA and UniB) with international accreditations, there is a growing pressure to publish in journals with a high impact factor that are listed in international journal rankings (e.g. JCRs, ABS). This is also reflected in the PM, especially at the individual level. More specifically, two of the interviewees stated that:

We all participate in this arms race to publish the best publications, in the best journals, with the highest points (Interviewee P5).

The main part of the current individual performance assessment is the publication achievements in highly ranked journals [...] if you wish to remain in the place where you are [at the university] you need to get a positive assessment, and it is obvious. We are stressed by this assessment (Interviewee P18).

The performance measures, in relation to teaching, in all universities, are based on traditional, quantitative metrics with few innovations (e.g. direct teaching hours, number of bachelor's/master's/doctoral students). Moreover, concerning teaching, all universities implemented student evaluations with online surveys. They periodically organized peer review observations of classes performed by other staff. Only one university seemed to pay more attention to the PM related to teaching and notice the drawbacks of the current PM, due to the small response rate and the decreasing relevance of the information received through the online system. Consequently, UniA introduced an innovation that measures the teaching quality by using a focus group. This new solution is expected to provide more valuable and accurate information of the teaching performance of the individual, as well as that of the programme.

Regarding the third mission, the PMS takes into account the different output measures in relation to the individual academics (e.g. consulting projects, expert team membership, boards, associations). However, this PM is mainly considered supplementary information to the performance information on research and teaching. Similarly, to research PM, accreditation offices are often playing a mediating role in the implementation of the system, due to the importance of the third mission in the overall evaluation of external evaluations and accreditations.

The management of all institutions declares that the use of PM is provided by the system; however, the major difference between the cases seems to be in understanding how academics use this information at the strategic level. Almost all of the academics at UniA clearly link the PM systems to the school's strategic objectives and goals. The faculty members also seem to understand how the system functions, especially when it comes to the expectations towards individual performance. In the other three universities, the faculty PM system is less clear for the individual academics. Additionally, most academics have little knowledge of, or familiarity with, the way PM is used at the school level, although the interview results suggest the awareness of the increasing internal pressures to use the PM at the strategic level.

4.3. The Uses and Users of PM

In the traditional, classical management accounting literature, PMs are considered an important part of PMSs (Otley, 2003, 2016; Broadbent, 2011; Martin-Sardesai *et al*, 2017). Universities are not different from other public organizations and can use PM for rational purposes to internally make operational and strategic decisions, with the goal of the efficient use and allocation of the available resources (Ansari and Euske, 1997; Baxter and Chua, 2003). However, PM can be also used in the wider context of the external stakeholders and society. Organisations can also adopt PM for symbolic purposes, aiming at the external legitimacy (Tucker and Parker, 2015). This need of the symbolic use is especially important in the case of public organisations, including universities (Moll and Hoque, 2011).

In this section, we provide empirical evidence of how PMs are used in the university context and who is using this information. We use our theoretical model to organize the discussion by first focusing on the different users (i.e. internal and external) of PM. We use the empirical materials collected to provide evidence and examples of the different uses (i.e. rational and symbolic) of PM within the two main groups of users analysed in the paper. A summary and synthesis of the findings for each case is provided in Tables 2 through 5.

A common example of internal and rational use provided by interviewees were decisions connected to employment. In all four universities, research achievements are considered by the university authorities for decisions regarding promotions, as well as the hiring and dismissal of employees. In three universities (UniA, UniB, UniD), the PM results connected with research are also considered during the allocation of internal grants for research projects and international conferences.

In the case of UniB, some of the respondents pointed out that the only rational use of formally reported information on their achievements is reflected in the decisions related to the

employees being made by school authorities. According to two respondents, this information is the basis for extending a contract or dismissing an employee:

[...] the evaluation, as such, is used to renew the contract (Interviewee P17).

If one's employment agreement is prolonged, it may mean that one has a positive rating. If it is not prolonged, or one is not promoted, reasonable grounds need to be established (Interviewee P18).

There seems to be some ambiguity about the use of PM, because when asked if they knew of any cases of dismissals based on the formalized PM, both employees and the school authorities could not provide an answer. It can therefore be presumed that the use of PM for decisions related to employees is, to some extent, symbolic:

The management [...] draws up the rankings of employees who have obtained a certain number of points, e.g. for publications [...]. Those who are at the bottom of this ranking become the subject of discussion about what to do with them [...], because if someone has not published a single article for six years, has no counselling achievements, and is not particularly liked by students, well, then you ask yourself why this person is still here with us (Interviewee P22).

Similarly, in the case of the second private university (UniC), empirical material show that the use of PM is mainly symbolic. Rational choices are focused on decisions related to the hiring and dismissal of employees. According to one dean:

If one doesn't actively support university, doesn't publish. What is the point of prolonging the contract, right? (Interviewee P32).

Empirical evidence indicates that annual staff meetings, organized at UniC, have a rational purpose. Interviewees point to its twofold role. On the one hand, during staff meetings, the overview of the skills and achievements of academics is performed. The main purpose of this appears to be motivational, thus serving a rational use. At the same time, the symbolic dimension of those meetings is visible, as specific academics are publicly praised and honoured. The meeting is to celebrate the distinguished researchers and lecturers. The following citation from one of the deans illustrates the dual role of annual staff meetings:

Meeting as we do today [annual staff meeting] is a perfect example of how we use that information [...] so we meet and talk for several hours about what we have done, specific names are mentioned, and this is all used for internal propaganda. To motivate. It works very well (Interviewee P26).

Similarly, the deans also indicated that PM is important for motivation purposes:

Whenever there is a person that publishes a lot, we mention him or her and say – you should compete with him or her, look at his or her articles – so we present those most active researchers (Interviewee P26).

Each employee is discussed during meetings [...] the talent is appreciated [...] if he/she works for the benefit of the institution, it is praised (Interviewee P25).

Rational use at the departmental level was rather limited in three (UniB, UniD, UniC) out of four universities. It was emphasized that informal information is mostly used. Employees usually know each other very well and know what their colleagues do. The head of the department can assess employees based on direct contact and observations. In the case of UniB:

At the department level, there exists informal knowledge of what and how one does [...]; if someone is the boss for many years, he/she may have a qualitative view of their employees (Interviewee P17).

At UniA, the empirical data illustrates both the rational and symbolic use of PM at the departmental level. The rational use of PM is reflected in making relevant decisions by heads of departments, such as those relating to the equal allocation of organizational tasks:

Information on organizational work is considered by the heads of the departments when allocating tasks and university responsibilities [...] so there is an equal, proportional distribution between the employees [...] we don't want one person to do everything (Interviewee P3).

At the individual level in the four universities, academics use PM for several rational purposes: to plan one's own academic development (career), to increase their knowledge about their colleague's work, to be more goal oriented, and to increase their motivation and satisfaction. Academics who choose to conduct research and seek to obtain higher academic degrees are obliged to collect information about their scientific achievements, as their assessment is the basis for awarding the habilitation by external state commission (CCADT). More specifically, one interviewee stated:

[...] the more measurable the scientific contribution the better, because it is easier to put it later in the documentation for habilitation (Interviewee P35).

Throughout the interviews, it was determined that the results obtained in teaching and research are often used in a highly symbolic manner. In all four universities, PM results are used to award outstanding research achievements, which are recognized during annual ceremonies, while the targets and awards differ between universities. In UniA, awards are given for articles published in Journals on the ABS list or with an impact factor. At UniC, each publication is awarded during the aforementioned annual staff meetings. Similarly, the value of

the award differs. At UniA, it is a monetary award which depends on the position and income of the employee. At UniC, there is no monetary incentive. Nonetheless, in each university, there is a public ceremony, with the rector awarding the certificate, serving as the symbolic use of the PM. According to one interviewee:

It is clear that awards are an attempt to promote achievements and to set certain people as a role model (Interviewee P3).

At UniD, the assessment of researchers itself does not have a direct link to their financial bonuses. The motivational system is based on the use of information about obtaining further academic degrees and publications to reward employees. The rector award for scientific publications can be awarded to employees who have collected a minimum sum of points for all of the articles that they published in scientific journals. According to some of the respondents, the Rector Award is purely symbolic. It is not a real attempt to motivate employees to make an effort and prepare high-quality papers that would have a chance of being published in international journals. More specifically, one interviewee said:

[...] satisfactory, good, very good or excellent grades do not significantly affect the level of remuneration of an employee, if there is no scientific promotion connected with it. Of course, employees who have outstanding achievements receive the Rector's Award, which is perhaps some financial incentive. However, this is not important enough to motivate employees (Interviewee P40).

At the level of the university authorities, in the case of UniA, respondents emphasized that the PM plays a strong promotional role for the university, both with external and internal stakeholders. Thus, PM is used for symbolic, marketing purposes through dissemination via social media and internal newsletters. The aim of promoting good research is motivational, on the one hand, and informational, on the other. According to Interviewee P1:

We do it so employees know who does what [...] to motivate others (Interviewee P1).

In all four universities, the use of PM, in a symbolic manner, was observed. PM is mainly to legitimize themselves in the eyes of various stakeholders, including employers, students, accreditation and ranking agencies, states and mass media. Additionally, some faculty members are of the opinion that getting an award involves a certain level of prestige:

Of course, all of our accomplishments end up in the grantees (Interviewee P15).

All the information on publications and research projects are used by the research office to put in upfront to the media (Interviewee P12). Among the people who aspire

for a scientific prize, there is definitely some competition in this field [...] my colleagues who receive these awards notice who has won the prize during the academic year, [...] it is associated with certain prestige, which is of greater importance than any financial prize for me (Interviewee P35).

At the departmental level, the empirical evidence points to the symbolic use. In the case of UniA, the heads of the departments use information about achievements to honour individuals and present them as a role model to the other faculty members. On the other hand, the department leaders revealed, that there is a rational premise to use both PM and final information to motivate employees:

Heads of departments always would point to outstanding individuals during meetings to appreciate, motivate (Interviewee P10).

An the individual level, symbolic use was only found at UniA. There, interviewees emphasized the role of PM in building their own personal brand, recognizability and their area of expertise within the university:

It is quite obvious, that if someone submits an article, and the article is accepted, then they would talk and 'brag' about it (Interviewee P1).

When someone publishes a lot in good journals, then he/she is perceived as great (...) I know that I tried to publish in better journals because of it, not because the university makes me (Interviewee P13).

We have to present ourselves to each other, to exist in the consciousness, that this is what we do, and those are my topics of expertise (Interviewee P15).

PM on teaching and research is closely analysed, especially in relation to the need to prepare it for the external users (e.g. MSHE, national and international accreditation agencies) responsible for monitoring university performance and compiling and publishing the rankings of business schools. One of the respondents at one public university (UniB) highlighted that the use is mainly symbolic:

Maybe in private schools it happens that someone has invented such a system of management [...] in order to make rational decisions [...] It is not so here; our system has been imposed from the outside and we just have to apply it. It is following some formal regulations (Interviewee P22).

Similarly, an interviewee at UniC emphasized that PM is mainly used for external reporting purposes:

There are certain indicators that we are obliged to, right? Those that we have to report to external [stakeholders] (Interviewee P28).

The symbolic use of PM is visible, especially at UniC, as the role of performance information that is mainly limited to external reporting purposes. UniC respondents highlighted some criticalities (e.g. lack of standardized information, regulations, proliferation of bureaucratic requirements) in relation to PM, both in teaching and research activities. The empirical evidence did not reveal how often the quality of teaching is measured or what the minimum targets for publications are, as the received answers were conflicting:

6 publications, each 10 points minimum (Interviewee P28).

2 publications, 10 points minimum (Interviewee P30).

It used to be 20 points annually, but I think it has changed now (Interviewee P26).

2 publications annually (Interviewees P27; P32).

4 publications annually (Interviewee P29).

One of the deans claimed that no target exists for publications.

There is no specified target [...]. There is no minimum, no maximum [...]. There is no need for them [...] because it would not be proper not to publish at all (Interviewee P25).

Thus, the use of the collection and the use of the PM at UniC seems to be, in large part, symbolic and dedicated to external users.

Despite the evidence of the use of PM internally for both rational and symbolic purposes, the empirical data points out the negative consequences of the system (Pop-Vasileva et al., 2011; Kallio and Kallio, 2014). The unintended consequences placed on individual scholars included more stress, conflicts and time invested for self-assessments. This was also visible in our interviews. Those consequences were especially visible in the university in which the PM system was mostly developed and used both symbolically and rationally (UniA).

The respondents presented a sceptical view towards certain measurements. Some academics believed that neither the number of publications, nor the rank of the journal, reflected performance. The actual contribution to science cannot be measured. Similarly, the rating of journals does not indicate how much effort the employees put into the preparation of a certain research article:

“I work on an article, which is very difficult and it takes me a lot of time, and someone in the same time may publish 5 articles and it would take the same amount of time, as this one difficult article took me. So, it is not comparable. I am not a fan of those journal points either, it is imperfect, but at least it showcases whether the journal is demanding or not (Interviewee P15).

When it comes to the students' evaluation of the quality of teaching, a major concern of the interviewees was towards the unequal, incomparable number and structure of the students involved, as well as the lack of reliability:

I wouldn't say that it [students surveys] measures my performance or quality of teaching [...], it rather measures their emotional attitude towards the lecturer (Interviewee P11).

It still requires a lot of work, so, for example, the student's surveys are reliable, it has to be ensured that not only the number of evaluators is adequate, but also the structure (Interviewee P1).

The PM was used across different levels in UniA in both a symbolic and a rational way. Hence, interviewees were able to notice the potential drawbacks of the system and were able to question its adequateness. In the remaining research universities (UniB, UniC and UniD), the interviewees did not raise any objections related to the adequateness of PMs and their use.

In conclusion, the implementation and use of PMSs in the four universities was clearly positive. There were also critical effects observed, both at the organizational and the individual level. The positive issues were related to more transparency and legitimacy, credibility, and image towards external users (e.g. state, accreditation agencies, employers, students, mass media). It should be emphasized that interviewees had trouble distinguishing between specific public bodies that supervise and assess the academic activities (e.g. CCADT, ACG, CESU were referred to as the MSHE).

The use of PM has also had a positive impact on internal decision makers (e.g. rectors, deans, heads of departments, individuals, academics) in increasing the rationalization of resources, learning about work activities, individual motivation, goal orientation, and the introduction of incentive systems. Interviews also revealed critical effects (e.g. symbolic use of PM, data errors, data manipulations, proliferation of bureaucracy, more stress, myopia, less motivation, less collaboration, several critics of the system).

5. Discussion and Conclusions

The PM systems at the studied universities were recently developed with the change of expectations set by the MSHE, and, more broadly, the public sector reforms that have been strongly influenced by the new public management principles and the wider European context of university reforms (Agyemang and Broadbent, 2015; Boitier and Rivière, 2013; Broadbent, 2011; Kallio and Kallio, 2014; ter Bogt and Scapens, 2012). In that sense, the PM systems are significantly influenced by the coercive pressure for reduced government budget dependence

and greater value for money (Parker, 2011). Regarding PMS and PM in our Polish university cases, especially that of UniB and UniA, there seems to be a strong emphasis among national stakeholders on performance needs that are driven by the expectations set by the international accreditation agencies (Ahrens and Khalifa, 2015).

The cases of UniA and UniB demonstrate the ambition of competing in the international education market and benchmarks with other top European business schools. The governmental regulations still play a role in the way in which the PMSs have been designed, but the system that measures performance more closely resembles the expectations set forth by the ranking and accreditation agencies. International research excellence is an important part of the school's strategy, which is clearly communicated to the faculty members. The empirics of the paper confirm that the existing PMSs are the results of mimetic isomorphism, as "market followers" are copying "market leaders" in commercialization (Parker, 2011).

Taking a perspective that the use of PM is recognized as playing a key role for internal decision making, but also in the external accountability purposes of public organizations (Czarniawska and Genell 2002; Lee, 2008; Tucker and Parker, 2015), we analyse the existing PM systems and *de facto* uses and users of PM. The four cases presented in the empirical section above provide an interesting basis for the comparison and analysis of how PM is implemented and used in the university context. The results of the four cases indicate different practices in relation to diversity in PM at the four universities.

Czarniawska and Genell (2002) suggest that by complying with an organizational model and legitimate language of performance, universities may try to maintain a loose coupling between operational reality and the window-dressing they wish to display to external stakeholders. A managerial culture has increasingly informed the research agenda and accountability has become a powerful force in reflecting the needs of different stakeholders to reach the exploitation potential of university research (Narayan *et al.*, 2017).

The empirics of the paper document that PM is used both in strategic and rational decisions, as well in external accountability. In general, in all of the studied cases, the PMs on research and teaching are used by internal actors (e.g. vice-rectors for research, teaching, academics, heads of departments, other university managers) and also for external accountability purposes towards the national actors. Additionally, in the case of internationally accredited schools, PMs are used to satisfy the information needs of the international accreditation and evaluation bodies. In relation to the third mission of universities, performance does not seem to be a major point of concern in daily operations, but it is considered relevant for external visibility.

In all of the universities, the leadership and managers attempted to rationalize the available resources. However, the extent and scope of the PM use by the internal actors was found to differ among university levels (central or department/faculty level) in each university. Organizational factors, such as culture, leadership, maturity of the PM system, size, ownership, and the perceived role of the department, seem to affect how the PM is used within the four universities. The performance of individuals is translated into quantifiable metrics to obtain information on strong and weak individual performances, as well as the performance of the departments and the entire institution.

The PMs that are related to individuals are mainly used for faculty management decisions. Our research also confirms that the general trend of the increasing use of PMs in operational decisions may lead to undesired consequences. Similar to other international universities (e.g. Australia, Finland, France, New Zealand, Sweden, UK), Polish academics are experiencing an increasing level of job stress and declining job satisfaction, with excessive workloads and external assessments as the major contributing factors (Agyemang and Broadbent, 2015; Boitier and Rivière, 2013; Kallio and Kallio, 2014; Pop-Vasileva *et al.*, 2011).

Achieving high legitimacy with key external stakeholders is important for all public organizations. Universities operating in the public-sector experiment with innovative changes imposed by national actors (e.g. internal PMSs) to gain legitimacy in the eyes of external constituencies, because of various pressures and influences (Agyemang and Broadbent, 2015; Broadbent and Guthrie, 1992; Hoque *et al.*, 2004, Czarniawska and Genell, 2002; Melo *et al.*, 2010).

Our empirics confirm that universities are using PM for accountability purposes, in the eyes of external actors at the national level, but also in the case of internationally accredited schools by the international accreditation bodies. Moreover, the picture portrayed in the empirical section directs more attention to the use of PM for symbolic reasons, as a signal of internal transparency, image, and reputation at the individual and departmental levels or for the research group (Brignall and Modell, 2000). This is particularly visible at UniA, which has been experimenting with the PM system for a much longer time period than the other universities. In this case, the PMs are used to monitor progress in achieving objectives and goals, to build a personal brand (image) of a successful researcher, and for social comparisons.

The analysis of the four cases illustrates that PMSs are not a neutral technical tool. Their application and utilization are heavily dependent on the attitudes and reactions of the different internal actors involved in the process (Bouckaert, 1993; Taylor, 2009). When the main motivation of the promoters of the systems is just to gain legitimacy in the eyes of external

stakeholders, by conforming to the organizational model to the language of performance, the individual actors tend to negate the usefulness of the system and often develop resistance strategies at the micro-level (Czarniawska and Genell, 2002; Modell, 2003). When the PMSs are successfully institutionalized and the goals of the individuals and organizations are linked, PM can be considered a useful and rational tool for supporting the decision making process, thus leading to improvements in efficiency and effectiveness.

This study also confirms that the use of PM is also dependent on endogenous factors, related to organizations (such as organizational culture, system maturity and information quality) and individuals (such as teaching/research work orientation, motivation, academic position and achievement, familiarity and the ownership of the system) (Grossi *et al.*, 2016; Kroll, 2014; 2015; Moynihan and Panday, 2010; Saliterer and Korac, 2013).

The paper makes significant contributions to the accounting and public management literature and to the theoretical understanding of how the PM is used and who are the users in the university context. Our paper argues that much of the current debate of PM system development is based on a narrow understanding of how decision-making actually takes place within universities. Contributing to the study of PM in universities, this research emphasized the exogenous and endogenous factors leading to such development. The existence of institutional pressures and organizational responses is suitable for shedding light on the different features finally assumed by accounting practices. Indeed, the development doctrine should benefit more from rational and institutional views on PM in the public sector, since the question is not only about the reasons of diffusion of PM, but also about something more fundamental in the ways in which it is used by internal and external actors within universities. Our findings contributed to this debate, pointing out the need to consider and integrate the possible use (rational vs. symbolic) of the PM and the context (institutional, organizational and individual factors) where it takes place. In particular, the paper highlights PM practices in a transitional context (Poland) located in Central and Eastern Europe.

Our results are also useful for policy-makers, university managers and academics that are responsible to redesign the current and future university PM systems. During this process, more considerations on the internal usefulness of the PM should be considered.

This article is subject to a few limitations. Firstly, it involves a study of only four universities. Hence, it is not possible to confirm that the findings are mirrored across the higher education sector throughout Poland. The study can be extended by incorporating more cases into the analysis. Additional insight could be gained if the sample is extended internationally in other Central and European countries. Cross-country comparisons could shed more light on

how internal and external stakeholders apply and use PM. Further studies could also investigate the impact of international organizations, such as rating and accreditation agencies, regarding the extent and scope of the use of PM.

Today's universities are complex and hybrid. Only a small number of faculty members for each case were included in the paper's sample. For that reason, additional studies could use different collection methods, such as large N-surveys, to obtain more detail on the use of PM in universities. Further studies could also address the issue of how PM use has changed over time, at different levels of decision making, and how external perceptions of the role of universities and their management affects the use of PM.

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Appendix 1. Data Sources

Data Sources		Duration
Total Interviews, N= 40		
UniA, N= 15		17h 17 min
Profile of Personnel Interviewed	Coded	Duration
Vice-rector, Research and Teaching	P1	1h 48 min
Head of Department, Management	P2	50 min
Head of Department, Marketing	P3	1h 30 min
Head of Department, Business Strategy	P4	55 min
Assistant Professor, Department of Social Sciences	P5	24 min
Senior Lecturer, Department of Social Sciences	P6	49 min
Rector, Head of Department, Quantitative Methods and Information Technology	P7	46 min
President	P8	1h 13 min
Head of Department, Human Resources; PhD Program Director	P9	1h 52 min
Assistant Professor, Department of Marketing	P10	1h 15 min
Assistant Professor, Department of Marketing	P11	1h 12 min
Assistant Professor, Department of Management	P12	52 min
Assistant Professor, Department of International Management	P13	1h 52 min
Secretary of Department, Business Strategy	P14	1h 1 min
Research Assistant, Department of International Management	P15	1h 8 min
UniB, N=9		10h 18 min
Assistant Professor, Department of Finance and Accounting	P16	30 min
Senior Lecturer, Department of Entrepreneurship and Management Systems	P17	40 min
Senior Lecturer, Department of Organizational Theory and Management	P18	1h 50 min
Dean, Head of Department of National Economy	P19	54 min
Vice-Dean for Research and Liaison; Head of Department, Management	P20	38 min
Head of Department, Organizational Theory and Management	P21	1h 50 min
Head of Department, Entrepreneurship and Management Systems	P22	1h 30 min
Associate Professor, Department of Marketing	P23	1h 5 min
Associate Professor, Department of Marketing	P24	1h 21 min
UniC, N=8		5h 25 min
Vice-Dean, Head of Department, Management	P25	1h
Dean, Department of Finance	P26	35 min
Assistant Professor, Department of Marketing	P27	40 min
Research and Teaching Assistant, Department of Marketing	P28	20 min
Head of the Research Center	P29	30 min
Head of the Managerial Accounting Unit, Department of Accounting	P30	40 min
Assistant Professor, Department of Marketing	P31	40 min
Dean, Department of Management	P32	1h
UniD, N=8		5h 27 min
Dean, Head of Department, Financial Accounting	P33	52 min
Research and Teaching Assistant, Department of Financial Accounting	P34	34 min

Assistant Professor, Department of Accounting	P35	51 min
Assistant Professor, Department of Management Process	P36	25 min
Assistant Professor, Department of Financial Markets	P37	39 min
Head of Department, Accounting	P38	44 min
Associate Professor, Financial Accounting	P39	35 min
Associate Professor, Department of Corporate Finance	P40	47 min
Archival data		
List of archival and organizational documents analysed		
University regulations		
Rector's directives		
Minutes of Senate		
Minutes of Rector's meetings		
Accreditation reports		
Committee meetings minutes		
PowerPoint slides from Senate's meetings		
Online Sources		
The Polish Accreditation Committee rankings		
Official university websites		

Appendix 2: The interview questions

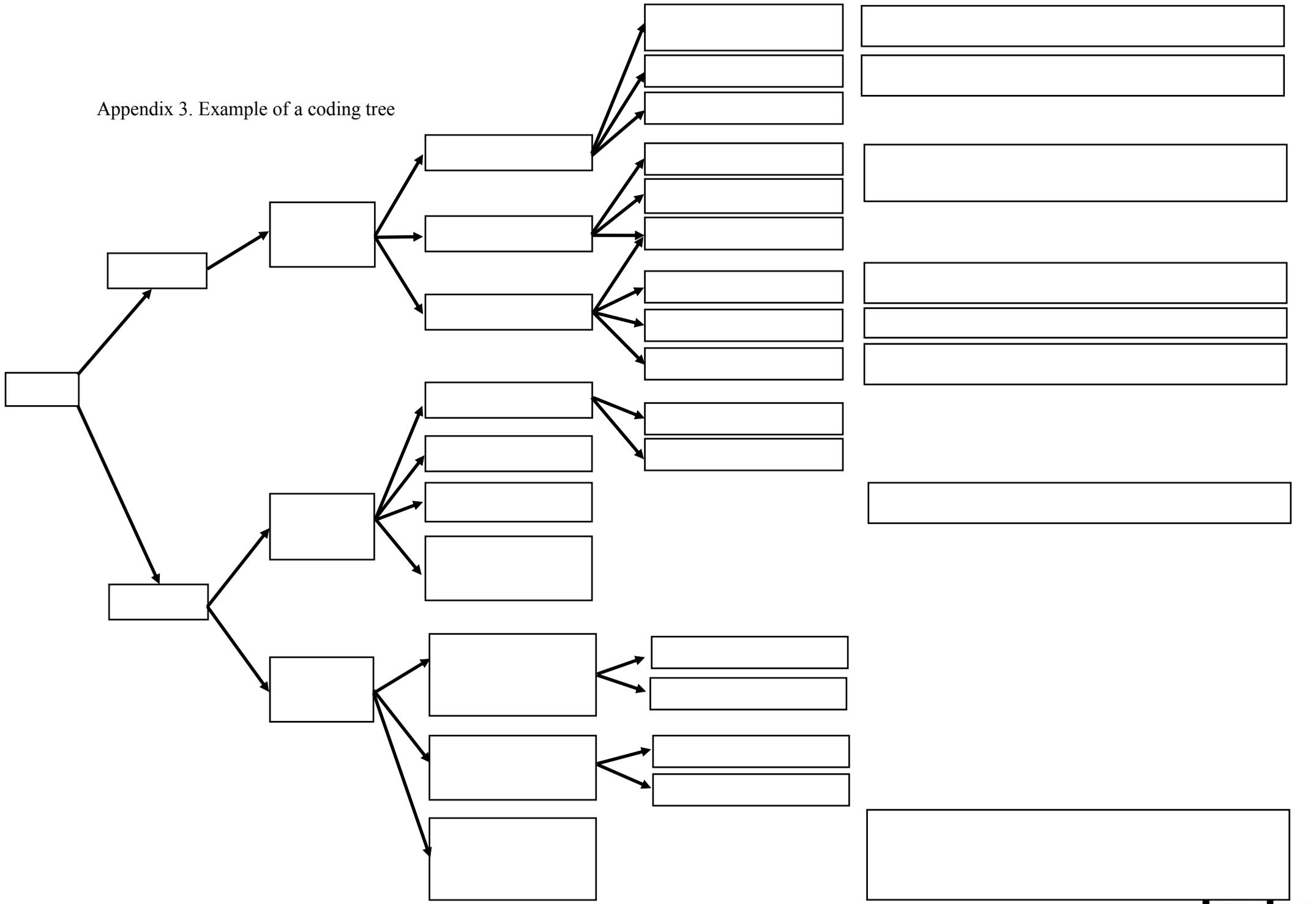
The role of the performance management system

1. Describe the way in which the activities of researchers are currently funded within the school.
2. Have there been any changes? Could you please describe the nature and the reasons for the changes that have taken place, as well as their consequences?
3. Describe the way in which the school's performance is assessed and the changes that have taken place over the last 20 years.
4. Describe the way in which the department's performance is assessed within the school and the changes that have taken place over the last 20 years.
5. Describe the way in which individual performance is assessed within the school and the changes that have taken place over the last 20 years.
6. What are the perceived objectives of the performance measurement systems within:
 - a. the school/department?
 - b. the individual level?
7. What are the perceived reasons for the changes in the performance measurement system within:
 - a. the school/department?
 - b. the individual level?

The uses and users of the performance measurement:

1. Who is using the performance information (e.g. target agreements, performance appraisals, performance-related pay, budgets, variance analysis) in your school?
2. Please describe how the performance information is used in your school:
 - a. at the school level?
 - b. at the department level?
 - c. at the individual level?
3. How would you describe the interest of performance information users in the use of the performance information for faculty management purposes:
 - a. at the school level?
 - b. at the department level?
 - c. at the individual level?
4. Could you please mention a few factors that determine the use of performance information?
5. Could you please point out the most important factor and rank the order of the mentioned determinants accordingly?
6. How do the current practices of performance management ensure the provision of the relevant information for faculty management processes?
7. Provide your opinion on the ease of the manipulation of performance information and the ways to "improve" the performance of:
 - i. the school/department.
 - ii. an individual.
8. What are the perceived consequences of the performance measurement system?
9. Provide your opinion on, to what extent, qualitative and quantitative performance measures are used in measuring performance.

Appendix 3. Example of a coding tree



Inte

Appendix 4. List of abbreviations

CCADT	Central Commission for Academic Degrees and Titles
CESU	Committee for the Evaluation of Scientific Units
ACG	Assessment Common Group
MSHE	Ministry of Science and Higher Education
PAC	Polish Accreditation Committee
PM	Performance Measurement
PMM	Performance Measurement and Management
PMS	Performance Management System