

RESEARCH ARTICLE

Management accounting and control systems as devices for public value creation in higher education

Luc Salemans¹ | Tjerk Budding²

¹Zijlstra Center for Public Control, Governance & Leadership of Vrije Universiteit Amsterdam, Amsterdam, The Netherlands and The Research Group Finance & Accountancy of Inholland University of Applied Science, The Hague, The Netherlands

²Department of Accounting and Zijlstra Center for Public Control, Governance & Leadership of Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

Correspondence

Luc Salemans, Zijlstra Center for Public Control, Governance & Leadership of Vrije Universiteit Amsterdam, Amsterdam, The Netherlands and The Research Group Finance & Accountancy of Inholland University of Applied Science, The Hague, The Netherlands. Email: luc.salemans@inholland.nl

Abstract

This paper investigates how management accounting and control systems (operationalized by using Simons' levers of control framework) can be used as devices to support public value creation and as such it contributes to the literature on public value accounting. Using a mixed methods case study approach, including documentary analysis and semi-structured interviews, we found diverging uses of control systems in the Dutch university of applied sciences we investigated. Although belief and interactive control systems are used intensively for strategy change and implementation, diagnostic controls were used mainly at the decentral level and seen as devices to make sure that operational and financial boundaries were not crossed. Therefore, belief and interactive control systems lay the foundation for the implementation of a new strategy, in which concepts of public value play a large role, using diagnostic controls to constrain actions at the operational level. We also found that although the institution wanted to have interaction with the external stakeholders, in daily practice, this takes place only at the phase of strategy formulation, but not in the phase of intermediate strategy evaluation.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2023 The Authors. *Financial Accountability & Management* published by John Wiley & Sons Ltd.

KEYWORDS

higher education, levers of control, management accounting and control systems, public value, stakeholder

1 | INTRODUCTION

Today, more than 25 years after it was first introduced by Moore (1995), the concept of public value is widely used (Bryson et al., 2014; Steccolini, 2019; Van der Wal et al., 2015). However, the number of papers on the topic using an accounting perspective is still limited (Bracci et al., 2019), that is, little has been written about how accounting systems are used in the way organizations strive to create public value (Bracci et al., 2019; Steccolini, 2019). Following Bracci et al. (2019), we think accounting systems can be used to support the creation of public value in various ways. First, they can be used to measure and report on public value creation. Second, and related to this, they can be used to manage public value creation.

This study uses the latter perspective and analyses how accounting and control systems are used in order to create public value in the context of higher education institutions (HEI). Several recently published articles observe that these organizations have been greatly influenced by New Public Management (NPM) reforms, which has introduced several mechanisms (e.g., marketization) and incentives (e.g., a focus on research output instead of outcomes) that may be counter-productive (Broucker et al., 2018; Carnegie, 2022; Manes-Rossi et al., 2022). Therefore, a plea is made for using a broader, public value, perspective that puts back the “publicness” perspective in higher education (Manes-Rossi et al., 2022). Our study analyzes this issue by focusing on Dutch universities of applied sciences (UAS). These organizations have embraced this concept in the formulation of their strategy (using words such as “Bildung”) and also attempt to report on it. At the same time, HEIs find it difficult to find appropriate ways of doing so.

By using an in-depth case study of a Dutch UAS, this paper examines the role of management accounting and control systems (MACS) in the creation of public value within a UAS. Following authors such as Otley (2016) and Macintosh and Quattrone (2010), we think that MACS are closely related and, therefore, consider them as a single construct. Although management accounting systems are “a formal mechanism for gathering and communicating data for the ends of aiding and coordinating collective decisions in light of the overall goals or objectives of an organization” (Horn-gren & Sundem, 1990, p.4), management controls are “the devices that organizations use to control their managers and their employees,” hereby using this data gathered by the management accounting system (Macintosh & Quattrone, 2010, p.5). More specifically, we use Simons’ (1995a, 1995b) levers of control (LoC) framework to analyze public value creation. In this framework, the potential of control systems to enable strategic change is stressed. Although this framework is frequently used in academia (Martyn et al., 2016), it is also not without its critics. One of these being Tessier and Otley (2012) who indicated, among other things, that a distinction has to be made between the central and decentral level in how control systems are used and experienced. Furthermore, several authors (e.g., Kruis et al., 2016) question Simons’ (1995b) assumption that the use of the LoC should be balanced and show that the use of controls depends on internal and external conditions.

Using the LoC framework, this paper finds that in the UAS we studied, belief and interactive controls are actively used to implement the new strategy that is formulated in terms of public value. The use of boundary controls and diagnostic controls is less visible, especially at the central level. This shows that Simons’ (1995b) statement that the use of controls should be balanced (as yin and yang) is not always achieved in daily practice. This does not imply that diagnostic controls are not used at all or are considered not relevant. They play an important role in ensuring that certain boundary conditions are met, in the area of educational quality as well as financial criteria. As such, they lay the foundation for strategy renewal and implementation. Furthermore, our observation that the use of controls is different at the central and decentral levels reinforces Tessier and Otley’s (2012) statement that a distinction should be made between them. Finally, although several papers (e.g., Moore, 1995; Broucker et al., 2018) indicate that

stakeholders should be involved in strategy formulation and evaluation, this paper finds that in our setting they are given a formal role only in the former, hereby missing an opportunity to adapt to their interests during a strategy period.

This paper contributes to the literature in at least two ways. First, it adds to the literature on public value accounting (Bracci et al., 2019; Steccolini, 2019), and more specifically the role MACS can play in the creation of public value, by analyzing this issue in the specific setting of higher education. Second, it provides new insights into the role of stakeholders in creating public value, hereby paying attention to both the phase of strategy formulation and strategy evaluation (Broucker et al., 2018; Chapleo & Simms, 2010; Freeman et al., 2020).

The remainder of the paper is structured as follows. First, we present our theoretical framework about public value and how to create that. We will show that MACS can play an important role in public value creation. Next, the design and results of our case study of a Dutch university of applied sciences are presented. We demonstrate that emphases in MACS support the creation of public value and what role stakeholders have in this is. The final section summarizes, discusses, and concludes as well as addresses the limitations of this research.

2 | THEORETICAL FRAMEWORK

In this section, we first introduce the concept of public value, and then we document the development of various frameworks for this concept before we connect these developments to MACS to combine strategy development and the issue of having control on realizing the proposed value.

2.1 | Public value

As Broucker et al. (2018) (see also Manes-Rossi et al., 2022) discussed, in many countries, the system of higher education has been greatly influenced by NPM reforms, but these have not always been to the advantage of HEI. Therefore, they advocate using a public value perspective for two reasons. First, such a perspective clarifies that HEI can achieve several objectives, often other than in monetary forms. Second, public value acknowledges the role of the different stakeholders and puts the role of HEI in the perspective of the larger societal context. Public value focuses on various goals of broad outcome, trust and legitimacy (O'Flynn, 2007), broad aspects that cannot be traced back only to money (Williams & Shearer, 2011). In this paper, we follow Benington (2013) who defined public value as "what the public values and what adds value to the public sphere" (Benington, 2013, p.47).

Broucker et al. (2018) developed a model aimed at public value creation for institutes of higher education which consists of three main elements. The first one is the recommendation that public values and strategic goals should be understood, articulated, and reviewed, hereby indicating that a large number of noneconomic targets (e.g., impact on employment reduction and creating learning opportunities for less advanced classes) can be distinguished. Second, attention should be paid to the authorizing environment. It is considered important that stakeholders agree on the targets in an ongoing process of dialog, and therefore, HEI should invest in intensive internal and external dialog with societal, political, economic, and other actors regarding the role of HEI in society and the targets to be achieved. Third, in order to achieve the stipulated outcomes, the operational capabilities should be determined. Hereby, traditional indicators focusing on efficiency and effectiveness should be complemented with information about other benefits and qualitative items.

Moore (1995) already indicated that it is fundamental to discuss the idea behind the values pursued with the legitimizing stakeholders. It is the role of (legitimizing) stakeholders to interpret the value created (Hartley et al., 2017), especially in situations with several goals and outcomes (O'Flynn, 2007). As Broucker et al. (2018, p.236) stated, all stakeholders should be actively involved in the process of interpreting what the value is or should be.

2.2 | Public value accounting

Public value accounting is considered a novel and distinct research field, which “contributes to developing new insights that are useful in explaining the design, implementation, and use of accounting systems within the public value management process” (Bracci et al., 2019, p.104). Despite these developments and possibilities, there is a lack of accounting-based studies (Bracci et al., 2019). According to Steccolini (2019, p.266), “there is need to understand the changing roles of accounting” “Accounting can challenge norms, traditions, and procedures” (Gallhofer & Haslam, 1996, p.25) and thus help contribute to change, not only by controlling expenditures, but also by offering alternatives.

Several frameworks have been developed in order to operationalize public value (Kelly et al., 2002; Moore, 2003; Talbot, 2011; Andersen et al., 2012), but there is a “lack of participation by accounting scholars” (Steccolini, 2019, p.263). In the literature, only a few examples of public value accounting are available, such as the study of Bracci et al. (2014) who analyzed the role of performance management systems in supporting public value strategies in an Italian theater and Cremonini et al. (2014) who developed a framework for measuring the performance of universities, using a public value perspective (see Spano, 2009; Grossi et al., 2021 for other studies on this topic).

Following Bracci et al. (2019), we consider public value accounting to be a broad concept, including all studies that address a certain issue of management accounting and control from the perspective of “Management Control System as a Package” (Malmi & Brown, 2008), hereby capturing articles about “budgeting, planning, and performance management” (Bracci et al., 2019, p.120). As such, we think that public value accounting is not only about gathering and communicating data, but also about control practices, hereby stressing the link between public value accounting on the one hand and MACS on the other.

2.3 | Management accounting and control systems

In “classic” approaches of MACS, a distinction is made between strategic planning on the one hand and control on the other. This is reflected by Anthony who defines a management control system (MCS) as “the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishing of the organization's objective” (Anthony, 1965, p.17).

Another approach to MCS was introduced by Simons (1995a). In his framework, four LoC (framework) are distinguished: diagnostic, boundary, belief, and interactive controls. Diagnostic controls are used to monitor where the organization is in relation to the stated targets in the strategic direction, it “works like the dials on the control panel of an airplane cockpit” (Simons, 1995a, p.81). Performance information enables managers to adjust capacity and processes (Simons, 1995b). Boundary control must prevent employees from showing deviant behavior from what is permitted and are especially considered relevant in organizations where reputation built on trust is a key competitive asset and more decentralized organizations (Simons, 1995a, p.86). Beliefs systems are seen as concise, value-laden, and inspirational: “They draw employees’ attention to key tenets of the business: how the organization creates value” (Simons, 1995a, p.82). According to Simons (1995a, p.87), interactive control systems focus on potentially strategic items, exchanging significant data, best discussed in face-to-face meetings and act as a driver for debate and action. According to Simons (1995a), MCS do not only support the implementation but also the formation of strategy and are an instrument to support and internally safeguard the realization of the strategy—and thus, in our case, creating public value. Furthermore, the LoC framework emphasizes the importance of using MCS to drive strategic change, in our case the implementation of a new strategy that focuses on public value creation.

There are many references in the literature to Simons’ model (according to Google Scholar more than 5800 citations of his 1995 book) and “the model has increased in popularity among researchers in the past decade” (Martyn et al., 2016). Numerous studies on the relationship between the MCS and strategy have been conducted, but the interpretations are diverse and ambiguous (Simons, 1995b; Reimer et al., 2016; Henri, 2006; Tessier & Otley, 2012).

Furthermore, many suggestions have been made to revise the model (Ferreira & Otley, 2009; Tessier & Otley, 2012; Mundy, 2010; Tuomela, 2005).

Given its proven usefulness to describe control systems in a systematic way, we use Simons' framework to analyze the control system in a Dutch university of applied science and to see how it is used as a supporting device for public value creation. However, as already noted by Tessier and Otley (2012), the LoC model had been originally developed for the strategic level and pays little attention to the operational level. This is especially problematic in large, decentralized organizations, such as the organization in our study as control systems may vary among these levels and have a diverging orientation. Furthermore, in decentralized organizations, different stakeholder interests may be brought into play (Broucker et al., 2018). Moreover, in such entities, multiple control systems can coexist at the strategic and operational level. In this study, we analyze how this influences the use of MACS as devices for public value creation.

The notion of balance is an important part of the LoC framework. Simons (1995b) pointed out that organizations need to balance their reliance on the four LoC to create an appropriate dynamic tension. Much has been written in the literature about this need for balance because it is not clear what this balance will look like (Kruis et al., 2016). Although, in the Balanced Scorecard, perspectives are assumed to have a cause and effect relationship (Kaplan & Norton, 2000), Simons considers "the belief system and interactive control as yang, while the other two levers - boundary and diagnostic control system - represent yin. These form countervailing forces" (Simons, 1995b, p.7–8). Simons reinforces this by indicating that "diagnostic control systems also enable organizations to operate on the basis of management by exception" (1995b, p.70). Several studies have further addressed the balancing perspective. Henri (2006) suggested that the use of interactive and diagnostic together can have a stimulating effect. Mundy (2010) looked at how management simultaneously uses the MCS to provide direction and empower employees. She provides insight in the difficulties organizations have in balancing the different uses of the LoC, and how dynamic tensions are created between controlling and enabling uses of MCS.

In recent years, the awareness has grown that MCS consists of a package of controls (Malmi & Brown, 2008), "consisting of the sum of all MC elements and MC systems that are used in an organization" (van der Kolk, 2019, p.514). A "MC package can be composed of a set of MC systems and/or of a set of interdependent MC practices addressing unrelated control problems" (Grabner & Moers, 2013, p.410).

3 | RESEARCH CONTEXT AND METHOD

3.1 | Dutch universities of applied sciences

Higher education is organized differently in different countries, in some they are part of the public sector, in another the private sector and sometimes a combination of these (Grossi et al., 2021). The latter is also the case in the Netherlands. The strategic agenda for higher education in the Netherlands aims for a more solid embedding in the environment (Rijksoverheid, 2018; Vereniging Hogescholen [VH], 2019), with the pursuit of impact on a societal level.

This research focuses on one of the largest UAS in the Netherlands. UAS are part of HEIs in the Netherlands. Higher education in the Netherlands is a binary system, consisting of research universities (14 entities, over 290,000 students in 2018; Vereniging van Universiteiten [VSNU], 2018), which are oriented on theory and theoretical aspects, and UAS (36 entities, over 450,000 students; Vereniging Hogescholen [VH], 2018), which focus on the application of knowledge (Kyvik & Lepori, 2010). UAS have three roles: to educate; to connect to industry and society; and to do research that facilitates these endeavors (Kyvik & Lepori, 2010). In the quality assurance system of UAS, external bodies play a major role. Most importantly, the Accreditation Organization of the Netherlands and Flanders (NVAO)—assesses the quality of the educational programs.

Analyzing the strategy plans 2016–2020/2022 of the 10 largest UAS in the Netherlands, Salemans and Budding (2022) found that in these plans these entities generally state that their aim is to deliver "added value to society" and also other goals that are strongly related to the concept of public value. At the same time, they also found that in the

The urgency of the energy transition and its affordability. The rising costs of our healthcare system and the use of technological aids. The lack of tolerance for others and the pressure this puts on social cohesion. The number of these kinds of socially wicked problems and their complexity will increase rather than decrease in the coming decades. Fontys can and wants to contribute to these issues. With us, students lay the foundation for a meaningful social contribution during their career. Professionals can contact us for retraining, continued education, and supplementary training. And with practice-oriented research, we contribute to answers to the continuous stream of superfast, far-reaching changes in society. In short: talent for society and knowledge for society!

EXHIBIT 1 Fontys' strategy.

Source: Fontys' website (see also Fontys, 2021).

annual reports for the years 2016–2017, UAS still use performance indicators that have a narrower orientation and are primarily focused on processes, outputs, and service delivery quality.

UAS receive a budget from the government of more than 2.9 billion Euros (Vereniging Hogescholen [VH], 2018), funding is largely based on student numbers and study success, such as dropout percentages. In addition, at the beginning of the second decade, experiments were conducted with performance agreements between individual UAS and the ministry of Education, Culture and Science, based on individual efficiency and quality criteria, such as student satisfaction and dropout percentages. These agreements ceased in 2016 because they were seen as too one-sided and both the institutions and the ministry of Education, Culture and Science wanted a broader value-driven agreement (Van de Donk et al., 2017). This confirms the movement UAS want to make from an NPM to a public value perspective.

3.2 | Data collection and analysis

This paper describes a case study of the second-largest university of applied sciences in the Netherlands, Fontys. With its more than 45,000 students, this institution is almost one and a half times larger than the biggest research university in this country. Around 5000 employees are involved in offering 75 bachelors, 28 masters, and 15 associate degree programs. It has a decentralized organizational structure, which is also considered necessary as the organization is located in 10 cities.

The use of a case study was considered a suitable research approach as it offers the possibility of understanding how public organizations work in a complex environment (Gerring, 2007; Yin, 2012). As part of the study, a document analysis took place (refer to Table A1), and semi-structured interviews were held. The main goal of the former was to prepare for the interviews, but some additional insights were also gathered in this way. The time span these documents cover is the period 2016–2021. From 2016 onward, Fontys clearly follows a strategy that is closely related to public value (see Exhibit 1 for a short presentation of its' strategy). In order to accomplish this strategy, the following development points are distinguished (Fontys, 2021, p.18–21):

- D1. A more balanced portfolio—the institution wants to create a portfolio of educational programs that meets the talents and wishes of a broader group of students in comparison to the current portfolio.
- D2. Improving accessibility—the institution wants to take away barriers, such as those related to origin, gender, sexual orientation, physical, or mental barriers or social-economic/cultural background.
- D3. Accelerating authentic learning—becoming acquainted with someone's future working environment.

- D4. Internationalization—it is considered essential for almost every student to get international experience and to gain intercultural competencies.
- D5. Student success—The institution considers this goal as accomplished if student make the proper study choice, get good results, feel at home in their program, with Fontys and the city in which they study, if their talents really flourish, and if they contribute to society in a meaningful way.
- D6. Flexibilization—The goal is a personalized learning trajectory, at one's own speed, close to the working field, with room for content from other programs and field.
- D7. Digitalization—Intelligent systems enable flexible and personalized education.

Please note that most of these development points correspond with Broucker et al.'s (2018) model of public value creation.

The interviews were held in the period February–April 2021, via MS Teams. We spoke to 17 stakeholders inside and outside the organization (refer to Table A2). Table A3 provides an overview of the interview questions. All interviews were recorded and transcribed verbatim. The transcripts were then coded and analyzed using Atlas.ti 9.0.7 software. To do so, a coding scheme was created based on the themes that were discussed. These themes focused on strategic developments, the control systems used, and the role of stakeholders. In this way, we systematically gathered information about (1) the extent to which respondents recognized developments that have an influence on the strategy that is formulated in (public value-like) terms, (2) the role of MACS as devices for public value creation, and (3) the involvements of stakeholders as crucial actors for public value creation.

Subsequently, by means of axial coding, the data was further organized to reveal similarities and differences among the themes (Gioia et al., 2013; Strauss & Corbin, 2014; Yin, 2012). The researchers discussed the coding in depth and challenged each other to enrich and triangulate the coding process. Because of the clear statements made by the interviewees, we were able not only to assess the findings in a qualitative way but also to provide some quantitative information about the extent to which issues were addressed. These way indications could be found of the extent to which interviewees consider instruments and other issues as important and/or contested. Furthermore, differences between the organizational levels could be explored. We stress, however, that our study should be considered primarily as a qualitative study, and our quantitative evidence was intended to further inform our qualitative findings (cf. Lillis & Mundy, 2005).

4 | FINDINGS

In this section, the results of the interviews are presented. We start by presenting the findings about strategic developments, followed by a discussion of the control framework. After that, the role of stakeholders in the realization and evaluation of the strategy is addressed.

4.1 | Strategic developments

To explore which developments play a role in determining the strategy and thus the goals, we asked our interviewees which developments in the field of higher education and research have become apparent in recent years. In order to rank the importance of these developments, we counted the number of respondents who brought these developments forward as well as the number of quotations about these issues (refer to Table 1). Furthermore, we made a distinction between respondents and quotes on the central and decentral level. Flexibility and practice-based research are the issues raised most often. Flexibility is about offering learning routes that are more personal and flexible, which differs greatly from the fixed education programs UAS are used to offering. One of the interviewees explains: *We look more closely at what the student and the professional field really need* (ID01). Doing research with a strong focus on professional

TABLE 1 Strategic developments

| Strategic development | Number of respondents central | Number of respondents decentral | Number of respondents total | Number of quotations central | Number of quotations decentral | Number of quotations total |
|-------------------------------------|-------------------------------|---------------------------------|-----------------------------|------------------------------|--------------------------------|----------------------------|
| Flexibility (D6) | 5 | 6 | 11 | 6 | 9 | 15 |
| Practice-based research (D1, D3) | 4 | 7 | 11 | 5 | 11 | 16 |
| Social value (D5) | 3 | 7 | 10 | 7 | 21 | 28 |
| Authentic learning environment (D3) | 3 | 5 | 8 | 5 | 9 | 14 |
| Digitization and technology (D8) | 3 | 0 | 3 | 3 | 0 | 3 |
| Total | 7 | 10 | 17 | 26 | 50 | 76 |

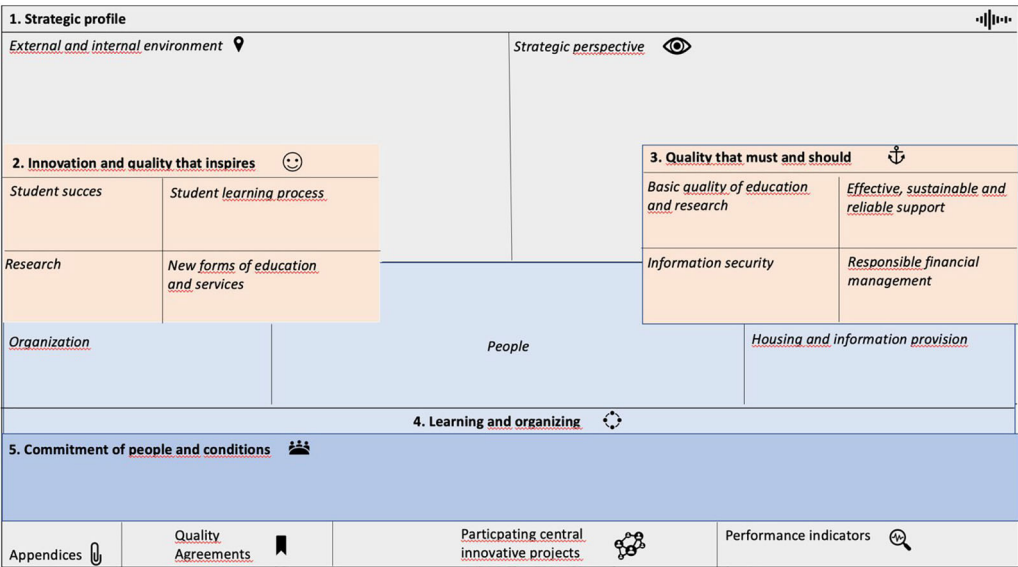


FIGURE 1 Format of management report MACON. [Colour figure can be viewed at wileyonlinelibrary.com]

practice is also an import theme. From 2001 onward, this activity is also legally anchored. In the case organization, a specific improvement program on research has been setup, which is called “Practice-Oriented.” This is also connected to the third most important issue, social relevance, which the case organization strives to increase, especially in the field of research.

In addition to these developments, an important trend is reflected in the design of an authentic learning environment. This involves a closer collaboration with the professional field, which provides *more hybrid training courses, based on the idea that this is also a way of making a connection with the professional field, of course, but also of further personalizing the training* (ID11). Remarkably, digitization and technological developments were mentioned by only three respondents, who are all active at the central level of the institution. A possible explanation for this finding is the COVID-19 situation, at the time of the interview. In these circumstances, people at the decentral level are already using IT tools to a great extent and therefore consider experienced digitalization as an element of current practice. Remarkably, all of the five abovementioned developments are addressed by the development points in the new strategic plan (2021–2025) of the institution. Furthermore, these developments were proportionally mentioned by the interviewees at the central and decentralized level. This is a clear signal of a common view on the main strategic issues with which the UAS is confronted.

4.2 | Management accounting and control system

In order to analyze the current design and use of the MCS, as well as the reciprocal relationship between the MCS and the process of strategy formulation, we used Simons’ framework. The starting point of the P&C cycle is the strategic plan. Based on this, annual management contracts are drawn up in which the goals to be achieved are specified, and the required budget is laid down. This way, each director is held accountable for the achievement of the organization’s strategic goals, including the collaboration with other institutes and service departments. Three times each year a management report is published. These reports are discussed between the managers and the Executive Board in periodic consultations. Just before our interviews took place, a new format was implemented, called MACON (see Figure 1). The left side of the model focuses on “Innovation and quality that inspires” (e.g., new forms of education and

services) and the right side on “quality that must and should” (e.g., basic quality of education as well as responsible financial management). The goal of this design is “to put the innovative side and the basics in order side next to each other” (ID09) so that “if the basics are in order and you can also determine it is so, there is room to work on renewal” (ID08).

Although most information that the management reports is of a qualitative character, there is also a lot of quantitative information available. Continuous information is provided to the managers at both the central and decentral level, by using PowerBI. PowerBI includes information about the amount of utilization of the budgets, as well as indicators that show the degree of study success achieved. The financial information has been worked out down to the team level, and this also applies to information about the study progress of students, which can be viewed per cohort and location. These (financial) reports are evaluated by the control department on a monthly basis and—if necessary—scheduled for further discussion between central and decentral managers.

Table 2 shows the emphasis placed by respondents on the concepts of the levers of management control. From this table, it follows that (only) 12 out of the 17 interviewees mentioned specific diagnostic controls. Most often, financial indicators (e.g., budget amounts and number of personnel) as well as basic key performance indicators (e.g., “study dropout”) were discussed. Realizing a satisfactory or basic level of these is considered very important, that is, the “basics should be in order.” If this is not the case management control takes on a different character, according to six respondents. The indicators concerning accreditation and NVAO-settings (NVAO, 2018) and education quality (“Bildung”) are seen as basics that *need to be in order, but the organization needs to focus on more fundamental areas* as one respondent said, *moreover, the minimal requirements like accreditation needs to be addressed but the real focus must be with the professional field to really deliver the value stakeholders expect* (ID03). As a result of the essential character of these elements, indicators are included in the control system that can be used to monitor whether the quality criteria are met. Therefore, the quality assurance system is anchored in the MACS, and the same is true for the category of new quality agreements with the ministry of Education, Culture and Science, already mentioned.

Boundary controls are discussed much less than the other forms of control. If these are addressed, they are mainly considered from a risk and decentralized perspective (refer to Table 2). A member of a central committee explains: *At the moment a team goes out of control, we have the opportunity to whistle them back and say, well, what you’ve chosen here, it doesn’t fit* (ID12). The available budget is also seen as a boundary, but one of the controllers at the central level observes large differences: *There is, however, diversity between the various institutes, some find it really important to steer very firmly on the financial figures* (ID07). The educational organization must also be able to deal with the fact that resources are sometimes limited and act accordingly: *Teachers and team leaders need financial boundaries because otherwise the attention and time for students is endless* (ID02). In addition, the audit unit, which is considered the third line of defense in the organization, also carries out audits on specific themes that are experienced as supporting for the quality assurance of the educational process. Finally, we noticed that the diagnostic and boundary controls were frequently closely inter-related: Meeting basic criteria with regard to educational quality and financial conditions was seen as a precondition for being able to realize the strategic goals.

Belief controls are seen as key elements to describe the strategy of the organization. All (17) interviewees mentioned elements of belief controls in almost 150 quotes. The most frequently mentioned issue was “outcome meaning,” which is about what the institution really stands for, how can you *be of value as an institution* (ID02). This is made more specific in the other items, such as which learning culture the organization wants to offer. This is operationalized in terms such as the aim to develop *a learning professional* (ID03) and *an authentic learning environment together with the professional field* (ID08). The interaction between the institution on the one hand and the region as well as the professional field on the other hand is also stressed by other interviewees, such as a manager of one of the institutions who expresses the wish *That we develop as a knowledge center with an eye for society and the development of the professional field* (ID04). This also defines the public or social value that the institute aims to deliver in the triangle of student, professional field, and society. By integrating practical issues in all programs of education and the research agenda—more than before—societal issues become part of professional training (Fontys, 2021). *With which the institution contributes*

TABLE 2 Levers of control mentioned

| Levers of control | Coding | Number of respondents | | | Number of quotes | | |
|-------------------|-----------------------------------|-----------------------|-----------|-------|------------------|-----------|-------|
| | | Central | Decentral | Total | Central | Decentral | Total |
| Diagnostic | Finance | 1 | 4 | 5 | 1 | 7 | 8 |
| | Hard controls | 1 | 4 | 5 | 3 | 5 | 8 |
| | NVAO | 2 | 4 | 6 | 2 | 6 | 8 |
| | Basics in order | 1 | 3 | 4 | 1 | 5 | 6 |
| | Bildung (Education Quality) | 0 | 3 | 3 | 0 | 5 | 5 |
| | Quality agreements | 0 | 1 | 1 | 0 | 3 | 3 |
| | Total | 3 | 9 | 12 | 7 | 31 | 38 |
| Boundaries | Frames from framework-principles | 0 | 3 | 3 | 0 | 5 | 5 |
| | Three lines of defense | 0 | 2 | 2 | 0 | 2 | 2 |
| | Audit on themes | 0 | 1 | 1 | 0 | 1 | 1 |
| | Total | 0 | 5 | 5 | 0 | 8 | 8 |
| Belief | Outcome meaning | 5 | 10 | 15 | 10 | 12 | 22 |
| | Learning culture | 6 | 6 | 12 | 10 | 8 | 18 |
| | Practice based | 5 | 6 | 11 | 5 | 10 | 15 |
| | Learning professional | 1 | 8 | 9 | 2 | 17 | 19 |
| | Organizational core values | 2 | 5 | 7 | 10 | 14 | 24 |
| | Authentic learning environments | 3 | 5 | 8 | 3 | 11 | 14 |
| | Soft controls | 2 | 4 | 6 | 6 | 8 | 14 |
| | Coaching and Skills | 1 | 5 | 6 | 0 | 9 | 9 |
| | Internal dialog and communication | 1 | 2 | 3 | 1 | 6 | 7 |
| | Change and CPI's | 1 | 2 | 3 | 1 | 3 | 4 |
| | Total | 7 | 10 | 17 | 48 | 98 | 146 |
| Interactive | Professional field | 7 | 8 | 14 | 12 | 41 | 53 |
| | Social value | 4 | 7 | 11 | 12 | 38 | 50 |
| | Strategic developments | 4 | 6 | 10 | 12 | 10 | 22 |
| | Impact | 3 | 3 | 6 | 7 | 4 | 11 |
| | MCS interactive | 1 | 5 | 6 | 1 | 10 | 11 |
| | External dialog and communication | 1 | 2 | 3 | 1 | 6 | 7 |
| | Total | 7 | 10 | 17 | 45 | 109 | 154 |

Abbreviation: MCS, management control system.

to the complex societal issues by doing practice-oriented research and training students in order to become resilient professionals (ID01). However, according to one of the external stakeholders, we talked with: *as an institute you still have a way to go, where interaction between the institute and the region/professional field must be shaped* (ID14).

The interviewees also indicated that the developments mentioned earlier should be supported by internal processes, including coaching and the developments of skills (*like crossing boundaries and exploring the field*—ID05) as well as internal dialog. Moreover, the set of values are repeatedly put on the agenda (*and how nice it would be if we could do it more intrinsically motivated together, eh? So that's how we came up with that set of values put it again and again on the agenda with each other and discuss it until annoying* (ID01).

The need to have an intensive dialog was also stressed under the heading of the interactive control systems. These kinds of controls were the ones mentioned most often by the interviewees. Almost 45% of all quotes were about interactive controls, and these were discussed in all interviews. Although according to the interviewees, a dialog with external stakeholders took place at the moment the strategy was formulated, the institution also considers it important to involve the legitimizing parties in the evaluation of the results. However, such discussion with external stakeholders lags behind in the daily practice.

In particular, the interviewees expressed the desire to have intensive contact with the professional field and to enter dialog with them about expectations and the degree to which results were reached. This way, the organization is able to get a better picture of expectations, so *at a certain point the walls between strategic partner and educational organization will start to break down more and more* (ID05). The activities developed on the basis of the strategic agenda *should contribute to an impact on society, partly by increasing the mass of research, but also by further improving education and research* (ID13).

To understand how quickly the work environment innovates, it is important to have contact with the professional field at all levels in the organization. The Executive Board asks the management of the institutes about the way in which they shape the translation of the strategy with public values for their specific professional environment. This dialog is initiated from the interactive LoC. Specifically, the interactive levers are translating from the outside in (*if I have to choose between the individual talents of people and the outside world, what is leading, then it is the outside world and the market, what does it ask of us?* ID03).

An important element of the public value the UAS is aiming for is called accessibility of education. *We attach great importance to accessibility and inclusion. So that also means that we put an incredible amount of effort into making sure that we reach the less obvious populations... we do focus specifically on that. And of course, this is a bit in contradiction to efficiency principles* (ID01). *This also means that we constantly emphasize and adapt these values throughout our communication. For example: in the old strategy we still went very much for excellent education, which actually refers to exclusiveness – the best in class – Now this term no longer fits* (ID12).

In this regard, it is important to notice that the Board members use the MACON as an instrument to achieve the strategic goals. The focus is not on realizing specific performance criteria but more on guiding the organization toward “being of public value.” The MACON (refer to Figure 1) instrument is built upon themes like internal and external developments, organizing, people—learning and organize and innovate, whereas indicators are present as basic information (boundaries). *KPIs and things like that, that's the diagnostic system, these function as a basis. But that is not the most powerful, the beliefs and the interactive systems are. Can you also manage your organization from a value-driven perspective, how adaptive are you?* (ID01). *The renewal of management control supports the organization in its own development towards what is necessary, instead of control becoming a kind of calculator and difficult* (ID07).

Most of the above findings relate to the educational activities. With regard to research, the main opportunity interviewees see is to strengthen the connection between research and education. Currently, the control focus with regard to research activities is on preventing exceeding time and financial boundaries. By bringing research closer to education, the expectation is to have more value for the organization and, therefore, greater social value creation. This should also be made visible in the use of indicators: *Although visitation and quality assessments show that the process basics are in order, there is little or no control on the basis of indicators* (ID10).

As Simons (1995a) pointed out, a balanced model is needed, one that has a certain degree of equilibrium in the handling of the four LoC. Table 2 shows that such a balance is not visible: According to the interviewees, the attention to the LoC distinguished is very different. Although belief systems and interactive control systems were mentioned frequently (all 17 interviewees mentioned these, 302 quotes), the opposite was true for the diagnostic controls (12 out of 17 interviewees, 38 quotes) and boundary controls (5 interviewees, 8 quotes).

If we look at the differences between the interviewees at the central and decentral level, we find that the unbalanced use of controls is noticeable at both levels, but also that the differences at the central level are larger than at the decentral level. Although, at the latter, interviewees seem to realize that some controls are needed to keep “the basics in order” (e.g., not overrunning budgets and meeting accreditation criteria), this is hardly the case at the central level.

TABLE 3 Legitimate stakeholders

| Legitimate stakeholders | Number of respondents | | | Number of quotations | | |
|-----------------------------|-----------------------|-----------|-------|----------------------|-----------|-------|
| | Central | Decentral | Total | Central | Decentral | Total |
| Professional field/partners | 6 | 9 | 15 | 24 | 40 | 64 |
| Society | 7 | 4 | 11 | 14 | 12 | 26 |
| Students | 5 | 4 | 9 | 11 | 19 | 30 |
| NVAO/Government | 5 | 2 | 7 | 7 | 2 | 9 |
| Staff members | 2 | 1 | 3 | 1 | 2 | 4 |
| Total | 7 | 10 | 17 | 59 | 74 | 133 |

All in all, meeting these financial and nonfinancial criteria—which are part of the diagnostic control system—seems to be a hygiene factor.

4.3 | Stakeholders

The attention in the strategy is mainly focused on realizing the direction of change, in which stakeholders are involved in the change process. As Moore (1995) pointed out, it is crucial that the legitimizing parties are involved in this process and “not to stop at what policy-makers and managers think” (Broucker et al., 2018, p.237) but to actively look for what broadly supported expectations are. In this case study, we have also looked at the extent to which stakeholders are actively involved in the creation and determination of public value. In the interviews, five groups of stakeholders were identified (see Table 3). The role of the professional field is particularly mentioned, on the one hand because graduate students will end up working there, but above all because they should be given a clear role in the design of the authentic learning environment. Society as a whole is also mentioned frequently, and the student respondents often stressed the importance of offering education in such a way: *that they really make a contribution that is also important for society* (ID17). The government and the accreditation institution NVAO is referred to as a stakeholder, but mainly so *from a legal and accrediting perspective* (ID03)—*the government is of course our legal client, but the focus is very much on the student and the professional field* (ID01). Remarkably, in the interviews with decentral employees—so the persons who are closer to education—the professional field was mentioned more frequently, whereas society as a whole is discussed more by the central (policy) people.

When it comes to the strategic process, these stakeholders are involved in debate sessions for defining the strategy. Interviewees indicate, however, that when it comes to the evaluation of the strategy, in determining to what extent the goals are being achieved, most stakeholders do not yet have a formal place. There are two exceptions, however. First, the government is involved in its role as supervisor and accreditation body of the organization. Second, UAS need to have students in their participation council. Although these parties are involved, they cannot bridge the gap between the institution and society as they do not represent parties that are able to indicate actual training needs and the extent to which current competencies and skills of students meet with current and future developments. Although such stakeholders do not have a formal position, they are most often represented in the Advisory Board of study programs, but this Board *has no formal role in the accountability structure* (ID15) and thus not in the MCS.

5 | SUMMARY, DISCUSSION, AND CONCLUSIONS

Although in the Netherlands, just as in many other countries, institutions of higher education were greatly influenced by NPM reforms, currently a trend to follow public value principles can be observed. In this paper, the second-largest

university of applied sciences in the Netherlands is analyzed, which recently reformulated their strategy in terms of public value creation. It aims are “contributing to added value for the region and the professional environment.”

This paper discusses that the way MACS are used as devices to stimulate the creation of public value and in order to do so, and Simons' LoC model is used. In this framework, four levers are distinguished: diagnostic controls, boundary systems, beliefs systems, and interactive controls.

Simons (1995a) stresses that a balanced model is needed that has a certain degree of equilibrium in the handling of the four LoC. However, if we look at the control systems used in this university of applied science, we find that although several controls are used at the same time and therefore are used as a control package (Malmi & Brown, 2008), the use of controls in the organization seems unbalanced. The control systems must balance empowerment and control to prevent empowerment- or control failure, whereas a dynamic interplay between the levers complements each control system (Simons, 1995b, p.153–163).

Furthermore, Tessier and Otley (2012) indicated that it is important to make a distinction between the way controls are used and experienced at the central and decentral level of the organization. Our analysis shows that there is indeed a need to do so: Although we find that at a decentralized level all four types of controls are used, albeit in a varying degree, at a central level, the use of diagnostic controls and boundary controls is less apparent. Both the design of the MCS and its use (Ferreira & Otley, 2009) must be in-line if there is to be maximum goal congruence (Cugueró-Escofet & Rosanas, 2013). Numerous public goals can cause tension between the levers, for example, the need for efficiency and innovation requires the right balance (Mundy, 2010; Simons, 1995b). The question of balance corresponds to research into ambidexterity (Raisch & Birkinshaw, 2008) of organizations in order to be successful and probably requires different control systems (Kuis et al., 2016); however, the strength of the levers is to use the levers in such a way that they reinforce each other (Mundy, 2010). Simons (1995b) considered the diagnostic and boundary in relation to beliefs and interactive as the yin and the yang.

Although beliefs systems and interactive controls are mentioned frequently by the interviewees, the use of boundary and diagnostic controls lags behind. In our case, boundary and diagnostic controls are mainly addressed as systems that are used to ensure that “the basics are in order,” both with regard to educational quality and the financial condition. Interactive controls and belief systems are used to formulate the strategy and to trigger the organization to implement it and to learn from it. The stimulating controls in the belief and interactive levers might be of more importance in guiding and managing an organization toward creating public value than the diagnostic and boundary system, which seem to operate together as boundary system. The latter finding corresponds with the result of a recent published meta-study on papers using an LoC approach, which shows among other things that the diagnostic lever often emerges as a boundary condition (Bellora-Bienengräber et al., 2022).

Educational organizations deliver public values at a number of levels (Spano, 2014; Broucker et al., 2018) for a wide variety of stakeholders (Chapleo & Simms, 2010). As Moore (1995) and O'Flynn (2007) pointed out, it is important to involve stakeholders in the process of strategy formulation and evaluation. Broucker et al. (2018) also indicated that involving the legitimizing parties strengthens the mandate and can provide the organization with insight into how to best implement the strategy.

However, in the Dutch context of higher education, the involvement of most external stakeholders is not formally regulated in the governance structure. Although the university of applied sciences in our case study considers it important to hear their opinion about the extent to which the strategic goals—which are formulated in terms of public value creation—are realized, they are currently only involved in the step of strategy formulation, and not in the evaluation of the strategy.

To sum up, our study shows that MACS are helpful devices to support public value creation. These systems do not only provide accounting information that can be used for these purposes but also help managers to control the behavior of employees in such a way that such a strategy is being fully implemented. As such, this paper adds to the literature on public value accounting. The institution for higher education that we studied had already a tradition of reporting on educational achievements related to nation-wide assessment regimes in this sector, but a recent orientation on public value creation enhanced reporting practices on the link of training programs with practice, and social value aspects

of these programs, such as accessibility of training, authentic learning, and internationalization. Although the results of our interviews suggested that performance indicators, as part of diagnostic controls, are less frequently used than interactive controls and belief systems, one has to take here into account that these diagnostic controls do often play a more implicit role, as we heard from the interviewees, they saw several basic indicators as crucial boundaries that could not be breached (e.g., the budget and basic quality criteria). We advise to further explore if and how indicators can be developed that more closely align with public value. Given the multiple interests of the stakeholders of the HEI, this might not be an easy task (cf. Karré, 2021). Narratives can be an alternative in both strategy formulation (Garud et al., 2014; Golant & Sillince, 2007), operationalization, and reporting (Llewellyn, 1999).

This study signals a less visibly balanced use of the LoC. Management at a strategic level uses in particular the belief and interactive controls, whereas diagnostic control levers seem to be used mainly at a tactical level, as a boundary condition. Future research can show whether this is because public value embraces a variety of goals and the indicators in this control system can be regarded as a critical lower limit.

Our study is not without limitations. First, we analyzed only one case of a university of applied sciences in the Netherlands (albeit one of the largest) to learn more about the role of MCSs in creating public value. This limits the generalizability of the findings. Second, we did our analysis at a single moment in time, specifically the period after presenting a newly formulated strategy. Although our findings are specific to the particular case in this research and results might not be transferable to other contexts, we think that our study provides new insights into how MACS can be used to realize public value and how stakeholders can be involved in this.

ACKNOWLEDGMENTS

The authors would like to thank the editors of Financial Accountability & Managements and the anonymous reviewers for their constructive feedback on earlier versions of this paper.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflict of interest.

DATA AVAILABILITY STATEMENT

The data sources used in this case study are available and stored within research data storage files at Inholland University of Applied Science.

REFERENCES

- Andersen, L. B., Beck Jørgensen, T., Kjeldsen, A. M., Pedersen, L. H., & Vrangbæk, K. (2012). Public value dimensions: Developing and testing a multidimensional classification. *International Journal of Public Administration*, 35(11), 715–728.
- Anthony, R. N. (1965). *Planning and control systems: A framework for analysis*. Harvard Business School.
- Bellora-Bienengräber, L., Derfuss, K., & Endrikat, J. (2022). *Taking stock of research on the levers of control with meta-analytic methods: Stylized facts and boundary conditions*. Accounting, Organizations and Society.
- Benington, J. (2013). From private choice to public value. In J. Benington, & M. H. Moore (Eds.), *Public value, theory and Practice*. Palgrave Macmillan.
- Bracci, E., Deidda Gagliardo, E., & Bigoni, M. (2014). *Performance management systems and public value strategy: A case study, public value management, measurement and reporting (studies in public and non-profit governance)* (Vol. 3, pp. 129–157). Emerald Group Publishing Limited.
- Bracci, E., Papi, L., Bigoni, M., Deidda Gagliardo, E., & Bruns, H. (2019). Public value and public sector accounting research: A structured literature review. *Journal of Public Budgeting, Accounting & Financial Management*, 31(1), 103–136.
- Broucker, B., De Wit, K., & Verhoeven, J. (2018). Higher education for public value: Taking the debate beyond New Public Management. *Higher Education Research & Development*, 37(2), 227–240.
- Bryson, J., Crosby, B., & Bloomberg, L. (2014). Public Value Governance, moving beyond traditional public administration and the new public management. *Public Administration*, 74(4), 445–456.
- Carnegie, G. D. (2022). Global university rankings: The macro-micro contradiction in public university management. *Accounting and Management Review/Revista de Contabilidade e Gestão*, 26(1), 77–109.

- Chapleo, C., & Simms, C. (2010). Stakeholder analysis in higher education. *Perspectives: Policy and Practice in Higher Education*, 14(1), 12–20.
- Cremonini, L., Westerheijden, D., Benneworth, P., & Hugh Dauncey, H. (2014). In the shadow of celebrity? World-class university policies and public value in higher education. *Higher Education Policy*, 27, 341–361.
- Cugueró-Escofet, N., & Rosanas, J. (2013). The just design and use of management control systems as requirements for goal congruence. *Management Accounting Research*, 24(1), 23–40.
- Ferreira, A., & Otley, D. (2009). The design and use of management control systems: An extended framework for analysis. *Management Accounting Research*, 20, 263–282.
- Fontys. (2021). *UAS for Society*. Retrieved June 15, 2021 from <https://fontys.nl/Over-Fontys/Fontys-for-society-1.htm>
- Freeman, R. E., Phillips, R., & Sisodia, R. (2020). Tensions in stakeholder theory. *Business & Society*, 59(2), 213–231.
- Gallhofer, S., & Haslam, J. (1996). Accounting/art and the emancipatory project. *Accounting Auditing & Accountability Journal*, 9(5), 23–44.
- Garud, R., Schildt, H., & Lant, T. (2014). Entrepreneurial storytelling, future expectations and the paradox of legitimacy. *Organisation Science*, 25(5), 1479–1492.
- Gerring, J. (2007). *Case study research: Principles and practices*. Cambridge University Press.
- Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organisational Research Methods*, 16(1), 15–31.
- Golant, B., & Sillince, J. (2007). The constitution of organisational legitimacy: A narrative perspective. *Organisation Studies*, 28(8), 1149–1167.
- Grabner, I., & Moers, F. (2013). Management control as a system or a package? Conceptual and empirical issues. *Accounting, Organizations and Society*, 38(6–7), 407–419.
- Grossi, G., Löfstål, E., Giovanna Mauro, S., & Sinervo, L. (2021). Toward outcome-based approaches in higher education. In two Nordic countries. In Z. Hoque (Ed.), *Public sector reform and performance management in developed economies: Outcomes-based approaches in practice*. Routledge (Chapter 12).
- Hartley, J., Alford, J., Knies, E., & Douglas, S. (2017). Towards an empirical research agenda for public value theory. *Public Management Review*, 19(5), 670–685.
- Henri, J.-F. (2006). Organisational culture and performance measurement systems. *Accounting, Organizations and Society*, 31(1), 77–10.
- Horngren, C. T., & Sundem, G. L. (1990). *Introduction to management accounting* (8th ed.). Prentice-Hall Inc.
- Kaplan, R. S., & Norton, D. P. (2000). *The strategy focused organisation*. Harvard Business Press.
- Karré, P. M. (2021). Value creation by two types of hybrid organisations: Opportunities and risks. In J. Vakkuri, & J.-E. Johanson (Eds.), *Hybrid governance, organisations and society: Value creation perspectives*. Routledge.
- Kelly, G., Mulgan, G., & Meurs, S. (2002). *Creating public value, an analytic framework for public service reform*. Cabinet Office UK, strategy unit.
- Kruis, A. M., Spekklé, R. F., & Widener, S. K. (2016). The levers of control framework: An exploratory analysis of balance. *Management Accounting Research*, 32, 27–44.
- Kyvik, S., & Lepori, B. (Eds.). (2010). *The research mission of higher educational institutions outside the university sector* (pp. 3–21). Springer Science+Business Media.
- Lillis, A. M., & Mundy, J. (2005). Cross-sectional field studies in management accounting research—closing the gaps between surveys and case studies. *Journal of management accounting research*, 17(1), 119–141.
- Llewellyn, S. (1999). Narratives in accounting and management research. *Accounting, Auditing & Accountability Journal*, 12(2), 220–236.
- Macintosh, N. B., & Quattrone, P. (2010). *Management accounting and control systems: An organizational and sociological approach*. John Wiley & Sons.
- Malmi, T., & Brown, D. A. (2008). Management control as a package – Opportunities, challenges and research directions. *Management Accounting Research*, 19(4), 287–300. <https://doi.org/10.1016/j.mar.2008.09.003>
- Manes-Rossi, F., Mussari, R., & Cepiku, D. (2022). Introduction to the special issue: “Performance measurement systems in universities: Threats or opportunities for governance?”. *Journal of Management and Governance*, 26, 327–335. <https://doi.org/10.1007/s10997-022-09638-5>
- Martyn, P., Sweeney, B., & Curtis, E. (2016). Strategy and control: 25 years of empirical use of Simons’ Levers of Control framework. *Journal of Accounting & Organisational Change*, 12(3), 281–324.
- Moore, M. (1995). *Creating Public value: Strategic in Government*. Harvard University Press.
- Moore, M. (2003). *The public value scorecard: A rejoinder and an alternative to strategic performance measurement and management in non-profit organisations by Robert Kaplan*. Harvard University, Working paper #18.
- Mundy, J. (2010). Creating dynamic tensions through a balanced use of management control systems. *Accounting Organizations and Society*, 35(5), 499–523.

- NVAO. (2018). *Beoordelingskader accreditatiestelsel Hoger Onderwijs Nederland*. Retrieved June 2, 2021. From https://www.nvaonet/files/attachments/89/Beoordelingskader_accreditatiestelsel_hoger_onderwijs_Nederland_2018.pdf
- O'Flynn, J. (2007). From New Public Management to public value: Paradigmatic change and managerial implications. *The Australian Journal of Public Administration*, 66(3), 353–366.
- Otley, D. (2016). The contingency theory of management accounting and control: 1980–2014. *Management Accounting Research*, 31, 45–62.
- Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, 34(3), 375–409.
- Reimer, M., Van Doorn, S., & Heyden, M. L. M. (2016). Managers and the management control systems in the strategy process. *Journal of Management Control*, 27(2), 121–127.
- Rijksoverheid. (2018). *Investeren in onderwijskwaliteit – kwaliteitsafspraken 2019–2024*. Retrieved October 15, 2020. From <https://www.rijksoverheid.nl/onderwerpen/hoger-onderwijs/documenten/rapporten/2018/04/09/investeren-in-onderwijskwaliteit-kwaliteitsafspraken-2019-2024>
- Salemans, L., & Budding, T. (2022). Operationalizing public value in higher education: The use of narratives as an alternative for performance indicators. *Journal of Management and Governance*, 26(2), 337–363.
- Simons, R. L. (1995a). Control in an age of empowerment. *Harvard Business Review*, 85, 80–88.
- Simons, R. L. (1995b). *Levers of control, how managers use innovative control systems to drive strategic renewal*. Harvard Business School Press Books.
- Spano, A. (2009). Public value creation and management control systems. *International Journal of Public Administration*, 32(3–4), 328–348.
- Spano, A. (2014). How do we measure public value? From theory to practice. In *Public value measurement and reporting (studies in public and non-profit governance)* (Vol. 3, pp. 353–373). Emerald Group Publishing Limited.
- Steccolini, I. (2019). Accounting and the post-new public management: Re-considering publicness in accounting research. *Accounting, Auditing & Accountability Journal*, 32(1), 255–279.
- Strauss, A., & Corbin, J. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). Sage Publication.
- Talbot, C. (2011). Paradoxes and prospects of 'public value'. *Public Money & Management*, 31(1), 27–34.
- Tessier, S., & Otley, D. (2012). A conceptual development of Simons' levers of control framework. *Accounting Research*, 23(3), 171–185.
- Tuomela, T.-S. (2005). The interplay of different levers of control: A case study of introducing a new performance measurement system. *Management Accounting Research*, 16(3), 293–320.
- Van de Donk, W., Hooze, E., de Jong, H., Leijnse, F., Moerman-van Heel, Y., Sewbaransingh, T., Tyson, A., & Verhoef, E. (2017). *Van Afvinken naar Aanvonken*. Ministerie van VWS.
- van der Kolk, B. (2019). Management control packages: A literature review and guidelines for public sector accounting research. *Public Money and Management*, 39(7), 512–520.
- Van der Wal, Z., Nabatchi, T., & De Graaf, G. (2015). From galaxies to universe: A cross-disciplinary review and analysis of public values publications from 1969 to 2012. *American Review of Public Administration*, 45(1), 13–28.
- Vereniging Hogescholen (VH). (2018). Feiten en cijfers 2018. Retrieved October 15, 2020 from <https://www.verenighogescholen.nl/kennisbank/feiten-en-cijfers/artikelen/kerncijfers-hbo-2018>
- Vereniging Hogescholen (VH). (2019). Professionals voor morgen Strategische agenda 2019–2023. Retrieved October 15, 2020 from https://www.verenighogescholen.nl/system/knowledge_base/attachments/files/000/001/067/original/Professionals_voor_morgen_-_strategische_agenda_Vereniging_Hogescholen_2019-2023.pdf?1567175114
- Vereniging van Universiteiten (VSNU). (2018). Feiten en cijfers 2018. Retrieved October 15 from www.vsnunl.nl/NL/feiten-en-cijfers.html
- Williams, I., & Shearer, H. (2011). Appraising public value: Past, present and futures. *Public Administration*, 89(4), 1367–1384.
- Yin, R. K. (2012). A (very) brief refresher on case study methods. In R. K. Yin (Ed.), *Applications of case study research* (pp. 3–21). Sage.

How to cite this article: Salemans, L., & Budding, T. (2023). Management accounting and control systems as devices for public value creation in higher education. *Financial Accountability & Management*, 1–19. <https://doi.org/10.1111/faam.12365>

APPENDIX

TABLE A1 List of used documents

| Title document | Main topic |
|--|----------------------|
| Balance perspective (strategymap UAS).pdf | Control and strategy |
| UAS focus 2020 brochure.pdf | Strategy |
| UAS focus Personel and organisation.pdf | Strategy |
| UAS focus Student.pdf | Strategy |
| Fill in format MACON 2021 Canvas_def concept.pdf | Control—MCS |
| Cohesion in P&C cycle.pdf | Control—MCS |
| Explanation and questions for help MACON 2021 canvas building blocks 1.0 def.pdf | Control—MCS |
| UAS for society 2021–2025.pdf (Fontys, 2021) | Strategy |
| Annual report UAS 2017, 2018, and 2019 | Annual reports |

TABLE A2 List of interviewees

| Category | ID | Function | # | Central (C)/decentral (D) |
|----------------------|------------|--|----|---------------------------|
| Employee | ID01 | Member Board of Directors | 1 | C |
| | ID02/03 | Director one of the Institutes | 2 | D |
| | ID04/05 | Member of management one of the Institutes | 2 | D |
| | ID06/07 | Control central department | 2 | C |
| | ID08/09 | Decentralized control | 2 | D |
| | ID10/11/12 | Central committees or units | 3 | C |
| External Stakeholder | ID13 | Member of Supervisory Board | 1 | C |
| | ID14/15 | Member of Advisory Board bachelor program | 2 | D |
| | ID16/17 | Student | 2 | D |
| Total | | | 17 | |

TABLE A3 List of semi-structured research questions

| Theme | Question |
|-----------------------------------|--|
| General | <p>What is your portfolio and how would you describe the program(s)?</p> <p>How long have you been working at the institution and what is your background?</p> |
| Strategy | <p>What developments have become visible in the context of HBO in recent years and how does this affect the determination of the (educational) goals?</p> <ul style="list-style-type: none"> • What expectations have you formulated or what agreements have you made? • To what extent are concrete targets involved? Can you give some examples? |
| Control system | <p>What do you understand by the management control system and what does it consist of?</p> <ul style="list-style-type: none"> • What is steering aimed at and how is this perceived? • Which aspects does the control system focus on, at a strategic or operational level? Are there any differences between these two levels? • To what extent is the MCS focused on management, accountability, and/or evaluation? • To what extent are teams self-managing and decisive in achieving the goals? What does this mean for the MCS • How does management control support the realization of education (goals)? Is that comparable for research? |
| Legitimate parties | <p>Which stakeholders do you consider to be legitimizing parties for the institution and program?</p> <ul style="list-style-type: none"> • What expectations have they formulated, or what agreements have you made? • How are their expectations reflected in the management control system? • Does the legitimacy differ per region or per organizational level? |
| Control and the education process | <p>How are relations organized internally when it comes to steering and support for accreditation?</p> <ul style="list-style-type: none"> • How are (external) stakeholders involved in quality assessment? • It is often said that a learning culture is important. How is it controlled? • Where is the primary focus Internal? Or development aimed at external goals? • Expectations from the professional field and society more broadly are developing rapidly. How are they signaled and then managed? • Is the focus focused on achieving (external) goals, or is it more focused on achieving efficiency (process focus) |
| Information | <p>How will you be informed about developments in the institution with regard to your interest(s).</p> <ul style="list-style-type: none"> • Do you receive information from or through the institution's management control system? • What information is included in the MCS? Does this help with management or is it an accountability tool? • Is the information in-line with the management and accountability of the organization? |
| Outcome | <p>If you had to describe the outcome, what would it be? How is this recorded?</p> |