



Operationalizing public value in higher education: the use of narratives as an alternative for performance indicators

Luc Salemans¹ · Tjerk Budding²

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Abstract

More than 25 years after Moore's first introduction of the public value concept in 1995, the concept is now widely used, but its operationalization is still considered difficult. This paper presents the empirical results of a study analyzing the application of the public value concept in Higher Education Institutions, thereby focusing on how to account for public value. The paper shows how Dutch universities of applied sciences operationalize the concept 'public value', and how they report on the outcome achievements. The official strategy plans and annual reports for FY2016 through FY2018 of the ten largest institutions were used. While we find that all the institutions selected aim to deliver public value, they still use performance indicators that have a more narrow orientation, and are primarily focused on processes, outputs, and service delivery quality. However, we also observe that they use narratives to show the public value they created. In this way this paper contributes to the literature on public value accounting.

Keywords Higher education · Public value accounting · Management control system · Performance measurement · Narratives

1 Introduction

A paradigm shift can be noticed in public administration (Bracci et al., 2019; Bryson et al., 2014), from Traditional Public Administration (TPA) through New Public Management (NPM) to more value-driven concepts like public value. There is a large body of literature about the concept of public value, and several frameworks have been developed to operationalize it. However, empirical research is lagging behind (Bracci et al., 2019; Faulkner & Kaufman, 2018; Hartley et al., 2017). In

✉ Luc Salemans
luc.salemans@inholland.nl

¹ Finance & Accountancy, Inholland University of Applied Science, The Hague, The Netherlands

² Zijlstra Center for Public Control, Governance & Leadership, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

public sector accounting, the interest in public value is also growing (Bracci et al., 2019; Bryson et al., 2014; Steccolini, 2019; Van der Wal et al., 2015), although the number of studies—especially in a local setting—is still limited (Bracci et al., 2019).

Meanwhile organizations in the public and not-for-profit sector are confronted with questions about what value these organizations add and what society expects of them (Cremonini et al., 2014). In the Netherlands, as well as in many other countries, stakeholders not only expect organizations to work efficiently, but also that they contribute to solutions for society. The question, however, is how do organizations define their goals, manage their processes, and ultimately deliver results. In order to understand public value, it is important to distinguish between output and outcome (Benington & Moore, 2013). In order to deliver public value, organizations need to be focused on their outcomes (Talbot, 2008), yet it is exactly this that is considered difficult in daily practice: how can we precisely define our contribution?

Van der Wal et al. (2015), as well as Bryson et al. (2014), showed that the concept of public value has grown in importance in the past twenty years. From an academic point of view, the concept is becoming more important, but empirical research is lagging behind (Hartley et al., 2017). Recently, Broucker et al. (2018) discussed how the public value concept could be helpful in the context of higher education. By using the strategic triangle of Moore (1995), the authors show that higher education has focused mainly on efficiency and efficacy in operational issues, and somehow neglected the other main angles (the authorizing environment and operational capabilities) of the triangle. Broucker et al. (2018) explain this narrow orientation by the broad meaning of the concept public value. As a result, organizations struggle with how to operationalize it and to measure results in terms of public value.

This study analyzes the creation of public value in the specific setting of Dutch Higher Education Institutions (HEI), and as such uses a local perspective (Bracci et al., 2019). Dutch HEI claim to focus on public value creation, explicitly stating in their strategy plans that their aim is to deliver ‘added value to society’ (Hogescholen, 2015). We investigate how the various institutions actually work out this claim, and focus thereby on accountability. As pointed out by Guenther and Schmidt (2015), HEI are paying considerable attention to the use of management control systems (MCS). However, in order to use these ‘formal information-based routines and procedures’ (Simons, 1995a) in order to realize public value and the information used for such purposes should be defined in these terms. Therefore, we analyze the annual reports of ten universities of applied sciences for a period of three succeeding years (2016–2018) if they do so.

This article contributes to the literature in the following ways. First, it adds to the literature on how the concept of public value can be operationalized. Whereas previous studies have focused mainly on the operationalization of some well-known public value frameworks, most notably the framework of Moore (1995), we take a different approach by analyzing the kind of indicators that are used, as well as the narratives employed. Second, it adds to the literature on public value accounting, as we specifically look at the annual reports of universities of applied sciences and if the information in these documents is suitable for steering towards public value creation and how to account for that. Third, it contributes to the scarce empirical literature on public value accounting in Higher Education Institutions (HEI).

Our analyses show the Dutch universities of applied sciences selected indeed indicate in their strategic plans that they aim to deliver public value, most commonly expressed in terms of ‘Bildung’. In their annual reports, they still use performance indicators that have a narrower process orientation, and are primarily focused on processes, outputs and service delivery quality. However, we also observe that they use narratives in these reports that express the public value they created.

The remainder of the paper is structured as follows. First the concept of public value is discussed, and the theory around public value accounting and measurement is introduced. Next, the results of our empirical research on Dutch Higher Education Institutions are presented. We show how they struggle with accounting for public value, and what attempts they have made. In the final part, the results and limitations of this research are discussed.

2 Theoretical background

In this section, three developments concerning the literature on public value are discussed. First, we document the development of the various frameworks about the concept public value. Second, we show how public value can be measured and what public value accounting is about. Third and last, we present some literature on the use of narratives in accounting and how these narratives can be used in order to gain legitimacy among stakeholders.

2.1 The development of public value frameworks

In order to better operationalize public value, scholars have tried to develop a framework in which the concept of public value could be understood and managed. The public value approach draws heavily on the seminal work of Mark Moore (1995), who introduced what is known as ‘Value is added if it is legitimate, sustainable, and efficiently created and contributes to satisfying the needs of society’ (Moore, 1995 p. 71). The model consists of three concepts, public value, legitimizing environment, and operational capacity, which together form the strategic triangle. Public value is about delivering a service that is sustainably valuable. A legitimizing environment is an environment in which the organization receives a mandate from its stakeholders to deliver the products or services. Operational capacity is about delivering cost effectiveness with the desired quality (Moore, 1995).

Moore (2003) built a public value scorecard, based on the idea of the balanced scorecard (Kaplan & Norton, 2000). The three core concepts of Moore’s (1995) strategic triangle are used in this scorecard and measures for these three concepts are introduced. As in the balanced scorecard, it is important to note that there are not only financial measures but also non-financial measures. As Moore indicates (2014), public value is not only about ultimate goals, but also about taking political and philosophical aspects into account. If well-defined, Moore’s approach leads to a public account. This account then acts as input for the legitimacy and support perspective, in order to obtain the funds needed to organize the operational capacity.

Several authors have elaborated Moore's frameworks. Kelly et al. (2002) added two additional dimensions to the strategic triangle (Moore, 1995): Resources and Processes. Adding these foci results in a scorecard like Kaplan and Norton (2000), 'which seems especially applicable because of the initial simplicity' (Talbot, 2011, p. 33). According to Talbot (2011), public value creation is about realizing and balancing three kinds of interests: *self-interest*, which 'captures the need for public services to provide good quality and efficient services at an optimum price to both the taxpayer/citizen and the 'customer'', *public interest*, which 'stresses the social outcomes aspects of public services—providing taxes and legitimacy for 'common good' activities that improve the welfare of all citizens (and have an inherently redistributive content)', and *procedural interest*, which 'emphasizes the need for equity, fairness, and due process in the way in which people get to participate in shaping public decisions and even individual services.' (Talbot, 2011, p. 30). Furthermore, he introduced five foci that should be taken into account when considering if public value is delivered: a trust and legitimacy focus, resources focus, processes focus, services focus, and a social-results focus.

The last framework to be mentioned here is the one developed by Andersen et al. (2012). According to these authors, measuring public value creation can result in a multi-dimensional value universe because of the value multiplicity in the public sector, that might bring ambiguity. Therefore, a classification of the set of values is necessary. Andersen et al. (2012) investigated Danish public management organizations and analyzed what public values managers wanted to realize. This resulted in seven dimensions, of which five (budgeting, productivity, professionalism, rule adherence, and user focus) are related to managerial attention. Two dimensions are more related to outcomes for society (the public at large, public interests). As Andersen et al., (2012, p. 723) states: 'items may be theoretically organized within ideal typical modes of governance, but when it comes to the practical pursuit of the values, internal tensions may surface'. 'The classification can therefore be helpful in future analyses of public values, thus allowing a more precise analysis of competing values and the dynamic forces resulting from these tensions' (Andersen et al., 2012 p. 725).

These frameworks have in common that they all consist of the idea of perspectives from which management can focus and monitor activities. This brings us to the public value accounting perspective, which emphasizes the need to reflect on how to account for the value created by public services, as well as the collectively owned assets used for this value creation (Bracci et al., 2019; Moore, 2014).

2.2 Accounting perspective and measurement of public value

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 PV management process' (Bracci et al., 2019 p. 104). Although a limited number of studies (Bracci et al., 2019) have devoted attention to making public value measurable, such as Spano (2014) and (Bracci et al., 2014), there is a lack of accounting-based studies, especially on the measurement of public value (Bracci et al., 2019). According to

Steccolini (2019), several developments can be observed in public sector accounting that affect the measurement of public value. First, it is claimed that accounting can play a role in governing complex policy networks. Second, accounting can challenge norms, traditions, and procedures and thus help contribute to change. Finally, the research on performance measurement and management control system design that has been developed over the previous decades, could be used to address such questions as under which conditions performance measurement and management improve performance and public value, while at the same time, many questions still need to be answered (Steccolini, 2019).

In recent literature, attention has also been paid to various methods within universities (Alach, 2017; Mauro et al., 2020) to assess the accountability (Nicolo et al., 2020) of public value creation (Grossi et al., 2021; Kallio and Kallio, 2014; Iacuzzi et al., 2020). Without exception, however, they indicate that more research is necessary in testing these methods and see if this fits with the practice of a specific university.

Public Value Accounting (PVA) is used on the one hand for reporting and on the other hand for control purposes (Bracci et al., 2019). In this paper we look at the extent to which higher education institutions use PVA for reporting purposes. Regarding reporting public values scholars have developed instruments in individual cases (Bracci et al., 2014; Collins, 2007) but these have not yet been elaborated in international standards. We think insights from the literature on Integrated Reporting (e.g., see Manes-Rossi et al., 2020) can be helpful. In particular, the standards developed by the International Integrated Reporting Council (IIRC) can be seen as an instrument to visualize what is important to the public community. If accounting succeeds in measuring and visualizing what is important, it is also interesting to see how the information is used (Gunther and Schmidt, 2015). Hartley et al. (2017) suggested a research approach including the role of (legitimizing) stakeholders in interpreting and defining public value.

As Moore (1995) has already indicated, it is important to discuss the idea behind the values pursued with the legitimizing stakeholders. This has to be done before a defined value can be measured (Broucker et al., 2018). In accounting schemes, most often public value is not yet clearly defined and needs to be discussed further. As long as definitions are not clear, public value creation is hard to measure and hard to place controls on.

2.3 Accounting perspective and the use of narratives

In daily practice, convincing others about the effectiveness of actions is often done with either figures (like key performance indicators) or via narratives (Llewellyn, 1999). The use of numbers is in line with general practice in accounting, while apart from the numbers, the discussion with stakeholders often takes place along the lines of a story. In social science, the use of storylines is associated with mechanisms that lead to better understanding and making sense of things (Kelly & Zak, 1999; Weick, 1995). It is considered meaningful in giving direction and focus to organizations. It is also seen as a communication tool. However, the degree to which it is

effective differs per organizational level (Barker & Gower, 2010). Storytelling can be an instrument for the development of legitimacy towards stakeholders (Lounsbury & Glynn, 2001; Zimmerman & Zeitz, 2002). Muslu et al. (2016) found that CSR report narratives with a high disclosure score leads to better predictability and thus greater confidence, as seen from the perspective of Corporate Social Responsibility. However, if expectations are subsequently not met, it can also lead to disappointment among stakeholders (Garud et al., 2014).

Within accounting, narratives can be used as a form of explanation and argumentation (Llewellyn, 1999). We can currently see examples of this in Integrated Reporting, where the use is mainly reflected in the non-financial components such as strategy and the business model (Lai et al., 2018). Storytelling can be used to explain how the strategic intent in organizations was translated into actions and has been involved in accounting and management events (Llewellyn, 1999).

3 Context and Research Design

3.1 Dutch universities of applied sciences

This research focuses on universities for applied sciences in the Netherlands. These institutions are part of Higher Education Institutions (HEI) in the Netherlands. The higher education in the Netherlands is a binary system, consisting of general universities (research oriented) and universities of applied sciences (oriented towards higher learning and professional training). There are 14 general universities which have over 290,000 enrolled students. This study focusses on the universities of applied sciences. The number of students enrolled in universities of applied science has tripled since 1970, with more than 450,000 students in 2018, serviced by 36 institutions, funded by the government with over €2.9 billion (Hogescholen, 2018; VSNU, 2018). These universities provide higher vocational education and conduct practice-oriented research. In the period 2012–2016, the Ministry of Education, Culture, and Science ran a pilot with performance agreements with individual universities as part of their funding. The focus in these agreements was mainly on output indicators, such as efficiency in the process of education (for example, the average lead time of each bachelor student). As such, the agreements could be seen as New Public Management-inspired methods.

The performance agreements were subject to intensive debates in the Netherlands (Slob et al., 2017; ScienceGuide, 2017; Van de Donk, 2017). HEI saw them as too narrowly focused and wanted to use a more value-oriented approach that would express their added value to society more explicitly. They not only wanted to implement this approach with regard to their educational activities, by enhancing students' individual values through the concept of 'Bildung', but also with regard to their research activities, particularly how they aimed to foster regional developments. These values appear to be cognate with Benington and Moore's public value (2013).

In the current funding of universities of applied science, the performance agreements have lapsed, but part of the funding is still provided on the basis of student

numbers and forms of study success. A new part of the funding is now provided on the basis of the quality objectives set by the institution itself (Rijksoverheid, 2018). These goals are driven by social expectations and are stated by institutions in their mission and vision. Generally, the design of the goals takes place through consultation with internal and external stakeholders. Whether and to what extent institutions receive money for this part of their funding arrangement is being tested by the government, and the accountability framework is still unclear at this time. This means that not only for accountability purposes, but also for the management of these institutions, the universities of applied sciences need to adapt their systems in respect of how to express their goals and results in term of public value.

It should be noted that HEI work with at least two control cycles (planning and control ('P&C') cycles). First, there is the financial control cycle, to allocate available resources in such a way as to achieve the organization's goals through the efficient use of resources. Second, there is the cycle to safeguard the quality of education. As Guenther and Schmidt (2015) point out, in addition to budgeting, financial control, planning and reporting tools, quality tools and quality management tools are also of great importance in higher education. Usually these have separate systems, but sometimes they are also seen as a package (Malmi & Brown, 2008) and supported by comprehensive systems. Universities of applied sciences are subject to a system of accreditation and visitation to safeguard educational quality, in which their educational and research activities are regularly reviewed against the quality level to be delivered at predefined standards (Staatscourant, 2019). The cycles are interrelated to a greater or lesser degree.

3.2 Data sources and methodology

The main data sources for this paper are the strategy plans (more formally indicated in this setting as 'institution plans') and annual reports of ten Dutch universities of applied sciences (refer to Table 5 in the Appendix). According to Articles 2.1 and 2.2 of the law on Higher Education (Rijksoverheid, 1992) every HEI in the Netherlands has to draw up an institution plan every six years and make it public. It should provide a description of the content and specification of the institution's intended policy for the duration of the plan, including measures to improve the quality of education. According to this law, the institution plan shall in any event include the institution's medium-term objectives, the main lines of the policy to be pursued and the priorities to be set therein, and the financial, personnel, material and organizational conditions that must be met.

Every HEI in the Netherlands also has to yearly publish an annual report. Part of it is the so-called board report, which is quite comparable with a management report. Dutch regulation (Rijksoverheid, 2021) prescribes that in this report the board of the institution has to inform the internal and external stakeholders about the intended policy, the outcomes, the operations of the institution, and the way financial means have been used. Furthermore, it also has to discuss the progression the institution has made towards fulfilling the quality agreements between the institution and the Ministry of Education, Culture and Science.

These documents form a uniform basis for analyzing the strategy of the institutions and the way they report about the realization of that. We selected the strategy plans that were most recently composed at the time of our analysis and contain the years 2016–2020/2022. Please note that the performance agreement of 2012–2016 (see earlier in this article) were not obligated anymore for these plans, and therefore, several indicators that were compulsory until 2016, did not necessarily need to be part of the new strategy. The annual reports of the years 2016 through 2018 are used because they relate to the first years of the period covered by the strategy plans.

This paper analyzes the ten largest institutions, which were selected on the basis of student enrolment numbers. All of them are large institutions (more than 25,000 students, covering 73% of all enrolled students in universities of applied sciences) encompassing many different fields of education and thus with many stakeholders and different societal needs that must be addressed. All ten institutes face comparable managerial pressure or challenges, other than institutes with only one field of education (such as institutions that only have courses on teacher training or courses in hospitality management, for example).

This research studies the extent to which institutions set "public value" as an objective and if they do so, how did they account for it. A content analysis has been done on the institution plans and annual reports.

The first step in our analysis was to find out if the strategy was formulated in terms of public value. Therefore, we looked if and to what extent institutions used words (such as 'added' 'value' 'creation', 'society' 'contribute', and 'region') in the strategy plans that reflected an ambition towards realizing public value (refer to Table 6 in the Appendix).

For our second step, we analyzed the annual reports. We used these documents to map the chosen education and research profile of the institution. The analysis especially focused on how the board reports on the achieved objectives for the education strategy. We investigated how they expressed their profile and what kind of keywords were used in the reports over the analyzed period. These keywords were discussed in detail between the researchers in order to have a clear and shared image. We also examined the kind of indicators used in the reports, more specifically, if these were indicators that were obligatory under the previous performance agreements (all being output indicators) or outcome indicators. The results are shown in Table 2 (see also Table 7 in the Appendix, showing the specific indicators found).

Finally, the strategic profile on education and research of each institution has been matched with the overarching themes in the board reports. Attention was paid to what kind of indication is given in the reports to account for the level of achievement of the objectives. Whereas not originally part of our research approach, we noticed during our empirical analysis that in the annual reports, besides indicators, also many stories were presented as examples of the realized achievements. We consider these as narratives (Llewellyn, 1999). In order to analyze these, we categorized the text in the annual reports and then looked which narrative could be found in the report. The definition of the narratives was sometimes very clearly indicated as a line in the reports, but was sometimes named by the researchers after extensive exchange and discussion between the researchers in order to arrive at an unambiguous image.

4 Empirical Findings

4.1 Strategy plans including outcome

According to the umbrella organization "Association of Universities of Applied Sciences": 'Universities of applied sciences have a public task and serve students and society. They therefore maintain good contacts with their environment. Many Universities of Applied Science can be labeled as "city universities" with an orientation towards and responsibility for metropolitan and regional developments and issues' (Hogescholen, 2015). The umbrella organization states that the strategy of the association of HEI 'creating public value is one of the main goals' (Hogescholen, 2015).

We observe that most of institutions investigated choose a specific theme from which the plans are loaded. Furthermore, we see that they all indicate that their goal is to "educate responsible professionals". As an institute of knowledge, they also want to play a role and contribute in resolving regional or social issues. Most often, they choose a specific focus area, from which research & education is loaded. More specifically, we analyzed to what extent the institutions explicitly mentioned that they wanted to "deliver public value" or "being relevant to public stakeholders" in their strategic plan. This turned out to be the case for all of the institutions. See Table 6 in the Appendix for the data collected in this part of our empirical analysis (Table 1).

4.2 Outcome achievements of education

A core task of the universities of applied sciences is the preparation of students for the labor market. The institutions' plans designate this as a public value. Apart from building up content knowledge, key elements are supporting students in the area of social skills and personal development aspects in a rapidly changing society. However, these elements are usually not fleshed out in any detail, but reference is often made to the various study programs' curricula, in which these aspects are elaborated further. A shift can be noticed from a highly efficiency-oriented approach to a more individual-oriented approach: contributing to making individual professionals future-proof (other terms are "able to start", "being of value", and "curious"). This is expected to create greater alignment with—and responsiveness to—changes that are taking place in society, and thus creating public value. To aim not only for better development and preparing students for their role in the labor process, mainly by elaborating the concepts coming under 'Bildung' (Biesta, 2017) through which students can assert their "grown-up" place in the world. These concepts include qualification (required level of knowledge), socialization (skills) and personification (development into—world—citizens). The educational programs are also responding to social aspects such as diversity, educational accessibility, hidden talent development, social mobility, and emancipation.

In addition to the strategic choices, it is also important to see what HEI have realized. In order to analyze this, we rely on the annual reports for the years

Table 1 Strategic, theme and chosen profiles in the strategic plans

Institution	Theme/title	Education profile	Education & research areas	Public value explicitly mentioned
Inholland	Dare to learn	Professional	Sustainable, health, creative business	✓
Saxion	Come in	Qualification, personal growth	Living technology; smart industry—health & wellbeing—areas	✓
Fontys	Focus 2020	Talents, able to start	Based on knowledge agenda of the region—TEC for Society	✓
Haagse	World citizens in a learning society	World citizen	Entrepreneurship and innovation; quality of life; good governance	✓
Avans	Making difference	Future-proof	Sustainable development; broad profile	✓
HAN	Together in confidence to learn and innovate	Professional, personal growth	Health; sustainable energy; SMART Region	✓
HRO	Working plan	Professional, being of value	Context Rotterdam world city and laboratory	✓
HU	Connecting education, research and professional filed	Professional contributing to society	Focus on our range of education and the programming of our research	✓
Hanzehogeschool	Innovate in connection	Development and contributing societal value	Energy—healthy ageing—entrepreneurship	✓
HvA	Curious professional	Curious professional	The city of Amsterdam	✓

✓ explicitly stated to deliver public value

Table 2 Findings on the item of education

Education during plan period 2016–2020/22		Indicators for outcome education			
HEI	Elaboration of 'Bildung'	Strategy plan 16–20/22			
		Annual report 2016	2017	2018	Annual report 2018
Inholland	Professional	A valuable professional	A valuable professional	A valuable professional	O O O O
Saxion	Qualification, personal growth	A viable professional	Multi competent professional	Multi competent professional	O O O O
Fontys	Talents, able to start	Able to start	Optimal development	Optimal development	a O O O
Haagse	World citizen	World citizen	World citizen	World citizen	a O O O
Avans	Future-proof	Future proof	Future proof and able to start	Future proof and able to start	a O O O IIRC IIRC/SDG
HAN	Professional, personal growth	Reflecting professional	Reflecting professional	Reflecting professional	O O O O Valuing through experts
HRO	Professional, being of value	Inclusive school, connection MBO-HBO	Practicing future role	Practicing future role	a O + M O + M O + M
HU	Professional contributing to society	Wanted Professional	Wanted Professional	Wanted Professional	O + M O + M O + M
Hanzehogeschool	Development and contributing societal value	Emancipating, relevant to society	Personal and societal growth	Innovating professional, eye for sustainability	O + M O + M O + M
HvA	Curious professional	Professional able to start	Professional able to start	World citizen and able to start	O + M O + M O + M

O Output indicator from former level of agreements; M outcome indicator; O + M both are used

^aFor these institutions, the website version gives no indicators. Targets are defined in activities

2016–2018. In general, the structure of these reports is the same. The reports pass through a structure that addresses education, research, alliances, and organization.

Tables 2 and 3 show whether the institutions have included indicators or have otherwise stated to what extent outcomes are specified in strategy or in the annual report. Output indicators that were mandatory at the time of the former performance agreements with the Ministry of Education, Culture and Science are marked with O, while outcome indicators are marked with M. Table 2 shows that only three institutions actually use indicators that are related to their ambition to offer education that is relevant to society. All institutions mention the student satisfaction indicator, an indicator also applied under the former performance agreements. The indicators found on outcome achievement are summarized in Table 3. For four institutions, the information available on the website contained no indicators about the realization of the strategy. All indicators from the annual reports are in Table 7 in the Appendix.

The annual reports of all institutions still present the old indicators decided at the time of the former performance agreements. New indicators were emerging in the area of labor perspectives for graduates. For example, the Amsterdam University of Applied Sciences (HvA), stated that 85% of alumni should have found a suitable job within three months. According to the Utrecht University of Applied Sciences (HU), the number of students who find a job within 18 months should be above the national average. Although institutions have mentioned and measured these indicators in earlier years, some institutions now applied them as an explicit objective representing outcome achievement. These data are derived from the annual survey of graduates, "HBO-Monitor", in which 90% of Dutch universities of applied sciences participate. In other words, this information is available to almost all institutions. However, not every institution adopted the

Table 3 Examples of public value indicators used by each HEI

HEI	Public value indicators outcome mentioned
HRO	% alumni without a job Research volume in Euro > 10% of wages Valuation through alumni
HU	% of alumni having found a job within 18 months is better than national average Salary of alumni after 18 months is better than the national average # of students with a job Sum of external funding of research # of strategic cooperating partners
Hanzehogeschool	# of students with a job Research volume in Euros Outcome and impact of research # of innovation workplaces # cultural projects
HvA	% of alumni having found a job within 3 months is at least 85% Sum of research funded by contracts and subsidies is at least 25%

new indicators as management indicators, possibly because the scores on these indicators are not only influenced by the activities of the institutions, but also by other factors, especially the labor market.

Another interesting example is the University of Applied Science Avans, who reports the former indicators combined within indicators derived from the concept of Integrated Reporting. They linked public impact to the UNESCO Sustainable Development Goals (SDG's). New indicators, apart from the number of pounds of CO₂ emissions reduced per student, were not yet introduced.

4.3 Outcome achievements of research

As we have seen for education, the degree of alignment between education and the labor market is considered the most relevant item. The research task, however, is explicitly referred to as being able to fulfil a key role in the development in the region of knowledge. By conducting relevant research in the region and closely linking such research to their curricula, institutions indicate that they contribute to the region's value creation in terms of economic or societal goals. To obtain a better understanding of how HEI address research, this paper also studied the research scope as expressed in Euros. Only four out of the ten institutions report this amount, two of which have linked it to a quality standard. At other institutions, any further insight into the scope of the research portfolio is lacking (see for the indicators Table 7 in the Appendix).

The interpretation of the accounting guidelines issued by the Dutch Ministry of Education, Culture and Science (OCW, 2017) also differs between institutions. For example, the scope of 'contract research and contract education', and of the 'returns from third-party education' is often stated as an aggregate amount in a single category, while the individual subcategories provided are not used. For other institutions, the research scope is reported differently yet again, by using information in the balance sheet. Since grant funds for larger projects often cover several years, the desired information is difficult to trace for individual years.

4.4 Outcome achievements in terms of narratives

The picture that emerges from the analyses thus far is that although Dutch HEI express their ambitions in public value terms, their use of performance indicators in the annual reports does not match that. However, as indicated in the section 'Theoretical background', other ways of reporting can also be used, in addition to performance indicators. Therefore, we investigate whether they use narratives to do so.

Table 4 shows that the institutions use a great variety of narratives in their annual reports. For our analyses, we selected the most important ones that were most specifically related to their strategic goals. The narratives present a number of activities, showing that education and research is combined in several ways and in new forms

Table 4 Thematization and orientation of education and research

Research profile and orientation	Strategic profile	Narrative lines		Orientation
		2016	2017	
	Period 2016–2020/2022	2016	2018	
Inholland	Sustainable, health, creative business	Focus on health	Teams in the lead, focus on Inholland professional	Regional organizational
Saxion	Living technology; smart industry—health & wellbeing—areas	Roadmap living technology, maneuverability organization	Living technology integrating in education and research, knowledge institute	Regional organization
Fontys	Based on knowledge agenda of the region—TEC for Society	Learning community, knowledge institute in the region	TEC for Society, translating in renewed quality agreements	Regional organization
Haagse	Entrepreneurship and innovation; quality of life; good governance	Global citizenship—connectivity—international compass	Global citizenship—connectivity—international compass—platforms	International organization
Avans	Sustainable development; broad profile	Education and research in the sign of social benefits	Value creation, following IIRC	Regional organization
HAN	Health; sustainable energy; SMART Region	Professional learning community, activities through the year	Journey across the professional learning communities, focus on professional governance	International organization
HRO	Context Rotterdam world city and laboratory	Quality assurance, culture & building network with partners	Right portfolio—explicating assumptions—introducing WORK	Regional organization
HU	Focus on our range of education and the programming of our research	Educating new innovative professionals, knowledge institute	Connectivity—team learning—quality education	International organization

Table 4 (continued)

Research profile and orientation	Strategic profile	Narrative lines	Orientation
	Period 2016–2020/2022	2016	2018
Hanzehogeschool	Energy—healthy ageing—entrepreneurship	Developing learning community—along three themes	Stakeholders—development across the three themes
HvA	Curious professional/The city of Amsterdam	Student engagement—robust education—flexibility—impact	Knowledge institute connects education—research—profession
		2017	Regional organization
		Collaboration—sustainability across the three themes	Regional organization
		Strategic targets—curious professional student & employee	Regional organization

such as living labs, expertise centers, innovation centers and hybrid learning environments in which students, researchers, professionals and stakeholders learn and work together. It is clear that these are expressions of transdisciplinary work forms, but it is unclear whether these are also the forms intended by stakeholders. As with the findings from education, the annual reports contain no information on the extent to which the institutions manage to conduct (innovative) research with respect to the themes formulated. Partnership projects are mentioned, but the scope of the effort made versus the envisaged or achieved effect are rarely, if at all, addressed.

The orientation of the research profile (Table 4, column 6) is linked to the fields of education offered by the institutions. Institutions indicate in their strategy that they wish to conduct research mainly with respect to the themes presented (Table 4, column 2). Such themes partly overlap between institutions in terms of content (e.g. "Healthy Ageing" and "Health & Wellbeing"). Because of the regional orientation and regional spread of the institutions, the activities might be aligned to the needs of stakeholders that are directly involved.

Besides the regional or international orientation, the narratives are also more explicit on the role of the internal professional, and the development that is necessary to achieve impact. All HEI, some more explicitly than others, report on the change that is needed to implement their strategy and achieve their goals. Two narrative lines found are "enforcing research in DNA of the institute, with focus in the research areas" (within Saxion) and "the role of stakeholders in the development of the three themes" (within Hanzehogeschool). Within Saxion, the experiences from the research areas are loaded with the necessary experience in and with research in the DNA of the Saxion professional, so that not only research projects gain the experience, but also education and thus future professionals benefit from social experiences. The storyline within Hanzehogeschool is "the role of stakeholders in the development of the three themes" in the research areas energy, healthy aging and entrepreneurship. The activities around these themes are inspiring examples of collaboration with stakeholders, where problems in the professional field are solved and then reintroduced into education on the basis of transdisciplinary collaboration in a learning community.

5 Discussion and conclusion

5.1 Discussion

The strategic plans ("institution plans") and annual reports indicate that public value is an increasingly important part of the educational goals of the universities of applied sciences investigated. At the same time, we observe that for the educational activities in the annual reports still old goals such as efficiency are used. These old goals were part of former performance agreements between the institutions and the

Dutch Ministry of Education, Culture and Science, but are no longer applicable. Nevertheless, the institutions decided to continue using these. This suggests that the universities of applied sciences find it hard to define performance indicators in terms of public value creation. Another explanation might be that they combine NPM and public value thinking as is also suggested by Hyndman and Liguori (2016). As far as research activities are concerned, it became clear that contact is being sought with stakeholders and exploration of the public value is taking place more explicitly by narratives.

All institutions use the classic output indicators of the earlier performance agreements to specify educational quality. However, those indicators do not provide any insight into the effects on delivered public value. It turns out that using specific output indicators may even be counterproductive (De Bruijn, 2019; Kallio et al., 2021). For example, choices on educational accessibility and diversity made by institutions have an impact on efficiency indicators, but clearly also on accessibility. In these instances, a sound explanation of policy choices may be helpful to gain legitimacy.

Bozeman (2002) warns against public failure, as counterpart of public value. If we look at the selected profiles, it is noticeable that there is overlap between the institutions in these profiles. E.g., several universities of applied sciences focus on health and sustainability issues. Further research is needed to see if this leads to inefficiencies.

When trying to achieve specific outcomes, clarity of organizational mission and matching strategic planning is important (Simons, 1995a; Tessier and Ottley, 2012). Benington and Moore (2013) stress that it is important to organize stakeholder contact to clarify the strategic goals before they are operationalized. When public value is defined and legitimized by stakeholders, the organization is able to optimize operational capacity, manage the processes leading to these goals and to monitor and control the activities (Moore, 1995). Spano (2014) notes that public needs are constantly changing while at the same time the control frameworks remain stable. It is striking that only one institution indicates that it actively evaluates the results with a (select) group of stakeholders.

Broucker et al. (2018) indicate that contact with the stakeholders seems to offer starting points for adequately understanding and articulating the public values and strategic goals. After defining the goal, the methods for achieving these public value goals can be integrated more clearly in the strategy. Thereafter, it can be monitored by performance measurements and support decision making processes within the public realm (Moynihan, 2009; Van Helden et al., 2008). Indicators are a widely used instrument to translate data into information, hereby using performance measurement systems such as the Balanced Scorecard and the European Foundation for Quality Management (EFQM) framework (Sorooshian et al., 2016).

The use of a balanced set of perspectives to look at public value creation is not only important from a reporting perspective (Kaplan & Norton, 2000; Simons, 1995a), but it is also relevant from a management perspective (Bouckaert, 1993; Ter Bogt & Van Helden, 2000; Liguori and Steccolini, 2014). As Simons (1995b)

states, different perspectives should be used for control purposes. Our results suggest that it is considered difficult to define indicators that can be used to show the creation of public value. For control purpose, this means that management cannot apply diagnostic controls in Simons (1995a) terms. Interactive control and control of values then appear to be important instruments for contacting stakeholders, but also for giving internal direction to the development of the organization. In their review of literature on measurement of public value, Faulkner and Kaufman (2018) identified four themes (outcome achievement, trust and legitimacy, service delivery and efficiency) that are key constructs of public value. These themes also ‘broadly reflect the most common terms in describing public value measurement’ (Faulkner & Kaufman, 2018, p. 77). Our study shows that for the categories ‘outcome achievement’ and ‘trust and legitimacy’ only a small number of indicators could be found. Most indicators are still process focused.

As Moore (1995) points out, involving stakeholders is an important step. Broucker et al. (2018) also indicate that involving the legitimizing parties strengthens the mandate and can give the organization a better picture of the operational implementation. Chapleo and Simms (2010) indicate that the role of stakeholders is often not formally regulated in the governance structure of HEI. This is also visible in the Dutch case. According to the Dutch law on Higher Education (Rijksoverheid, 1992), only the central government has a formal role. The only exception is that students are involved in the decision making on budget spending that relate to the so-called ‘quality objectives’ (Rijksoverheid, 2018). The role of other stakeholders is not institutionalized. We believe that the significance and expectations of the public value of the institution can be enhanced by taking the views and opinions of stakeholders more into account.

We think that the use of narratives can be helpful for the development of clear goals and legitimization by stakeholders. Boland and Schultze (1996, p. 62 in Lai et al., 2018) already indicated that narratives and storytelling “is consistently undervalued and often suppressed.” Previous literature (Golant & Sillince, 2007; Llewellyn, 1999) suggests that narratives can contribute to gain legitimacy. Whereas public value focuses on outcomes to be realized, and these are more difficult to express in numeric performance indicators than output indicators, we consider the use of narratives a fruitful way forward to communicate ambitions and results in terms of public value. However, the use of narratives is not without disadvantages, and comes with the risk of impression management and reporting bias (Brennan and Merkl-Davies, 2013; Beattie, 2014). Therefore, the analysis of the use of narratives also requires more research into underlying and coherent codes that can provide judgments about the quality of information and possible value for predictability of organizational behavior (Hussainey & Al-Najjar, 2011).

If we compare the narratives of the different HEI, two directions stand out. The first is how the activities that are carried out for public value creation are discussed, more specifically the way stakeholders can be informed about the way the objectives are realized (Llewellyn, 1999) in order to gain legitimacy. The second direction is that HEI are using narratives as a communication and control instrument to give direction to the internal organization, as a form of sensemaking (Kelly & Zak, 1999; Weick, 1995). The use of narratives is therefore not only interesting from an accounting perspective, but also from a communicative perspective.

5.2 Conclusion

Whereas there is already more than 25 years of attention given to public value creation, and the number of studies investigating this issue has grown steadily over the years, the number of studies using a public value accounting perspective (Bracci et al., 2019) as well as those focusing on Higher Education Institutions (for some exceptions, see Broucker et al., 2018 and Grossi et al., 2021) is limited. This paper aims to fill in these gaps to some extent by analyzing goals and results in terms of public value creation by Dutch universities of applied sciences in their strategy plans and annual reports.

Our analysis reveals that the strategy plans clearly show that public value creation is seen as an important goal by these institutions. However, the picture that emerges from the annual reports is that performance indicators of educational activities are still formulated in a more process and primarily efficiency-oriented way, which resembles NPM-thinking. We think that this may be an obstacle for steering towards public value creation for these institutions.

However, this problem seems to be partly mediated by the use of narratives. Our investigated HEI use narratives for their research activities to indicate which activities have been undertaken to make a relevant contribution to society as an institution of knowledge. By doing so, an answer is given to stakeholders about the way in which they implement this objective. This implies that using a scorecard perspective (e.g., Moore, 2003 and Talbot, 2011) may overlook ways to report on public value creation and should be added with other perspectives, such as the use of narratives.

5.3 Limitations and avenues for future research

Our study is not without limitations. First, we analyzed a sample of ten out of 36 universities of applied sciences in the Netherlands, representing 73% of the study population. These are the largest ones which may limit the generalizability of the

findings. Second, we hypothesize that in order to steer towards public value creation, performance indicators are also needed that represent such a perspective. However, we do not know if this hypothesis holds in daily practice and we suggest more research on management control systems of HEI should be carried out. Third, we did not analyze the way strategic goals were formulated. While we observe that strategic goals of our investigated institutions seem to express public value thinking, we do not know the extent to which stakeholders were involved. Only one of the reports studied in this paper explicitly mentioned that it was discussed with stakeholders, but the feedback of the stakeholders was not reported or incorporated into the final report. In line with Broucker et al. (2018) we think that the information public value accounting delivers will be enriched by such feedback. Fourth, we do not know yet how the use of efficiency-oriented performance indicators can be explained. It may result from difficulties institutions experience in formulating a broader set of performance indicators, that are more outcome oriented. However, it can also indicate that the HEI in our study combine PVM and NPM thinking (Hyndman & Liguori, 2016). Fifth and finally, whereas we think that the use of narratives is a potentially fruitful way to communicate about ambitions and results in terms of public value, more research is needed about the potential risks of it (e.g., impression management) and the way numbers and narratives can be combined.

To sum up, our study shows that public value creation is seen as an important goal of the HEI. However, the way to account for its accomplishment is considered difficult. Our findings suggest that the use of narratives may offer a way to move this issue forward.

Appendix

See Appendix Tables 5, 6, and 7.

Table 5 Documents of selected HEI used in review

Institution	Type of document	Name of document or link to it
Inholland	Strategic plan ^a	Instellingsplan-2016–2022-durf-te-leren
	Annual report 2016, 2017, 2018	https://www.inholland.nl/over-inholland/publicaties/
Saxion	Strategic plan ^a	Saxion_strategisch_plan_16-20_nl
	Annual report 2016	http://docplayer.nl/106366769-Jaarverslag-saxion-nl-jaarverslag-living-technology-inspirerende-docen-ten-vitale-organisatie-16praktijkgericht-onderzoek-en-valorisatie.html
	Annual report 2017	https://www.saxion.nl/binaries/content/assets/over-saxion/organisatie/cijfers-en-feiten/jaarverslag-saxion-2017.pdf
Fontys	Annual report 2018	https://viewer.wepublish.com/jaarverslag-2018?singlepage=true
	Strategic plan ^a	Fontys Focus 2020
Haagse	Annual report 2016, 2017, 2018	https://fontys.nl/Over-Fontys/Onze-organisatie-1/Jaarverslagen.htm
	Strategic plan ^a	Wereldburgers in een lerende samenleving De Haagse Hogeschool op weg naar 2020
	Annual report 2016, 2017, 2018	https://www.dehaagsehogeschool.nl/over-de-haagse/organisatie/feiten-en-documenten
Avans	Strategic plan ^a	Avans 2020
HAN	Annual report 2016, 2017, 2018	https://www.avans.nl/over-avans/organisatie/jaarverslagen
	Strategic plan ^a	In vertrouwen samenwerken aan leren en innoveren ⁷
HRO	Annual report 2016, 2017, 2018	https://www.han.nl/over-de-han/organisatie/jaarverslag-en-verantwoording/
	Strategic plan ^a	WERKplan
HU	Annual report 2016, 2017, 2018	https://www.hogeschoolrotterdam.nl/hogeschool/publicaties/jaarverslagen/
	Strategic plan ^a	Hogeschool Utrecht in 2020
Hanzehogeschool	Annual report 2016, 2017, 2018	https://www.hogeschoolrotterdam.nl/hogeschool/publicaties/jaarverslagen/
	Strategic plan ^a	Vernieuwen in Verbinding. Strategisch plan 2016—2020
HvA	Annual report 2016, 2017, 2018	https://www.hanze.nl/nld/organisatie/hanzehogeschool/college-van-bestuur/beleid/beleid/jaarverslagen
	Strategic plan ^a	Nieuwsgierige professionals Instellingsplan 2015–2020
Annual report 2016, 2017, 2018	https://www.hva.nl/over-de-hva/organisatie/plannen-feiten-en-verslagen/jaarverslag/jaarverslag.html	

^aBecause of time-lapsed some documents are no longer available at the website of the institution

Table 6 Public Value in each strategy plan. Terminology data found in strategy plans referring to public value

HEI	Description of public value goal
Inholland	For example, we focus our education and research on three important transitions in society: ... This broad view offers an interesting perspective and added value for the entire Randstad conurbation
Saxion	we make a difference through our orientation towards technology: its use in all professions and for the benefit of society
Fontys	Our significance also lies in the effect we have in the realization of the changes in society; regional, national and international. Our added value lies in our proactive role: in helping to shape and develop a sustainable and just society
Haagse	Every university of applied sciences is expected to contribute to the development of society We want to live up to what we want to pass on to our students. We want to promote global citizenship and express our ... fulfilling a social role
Avans	Offering social added value by solving regional issues together with companies and organizations, preferably in a multidisciplinary way. By developing knowledge that organizations can apply and that keeps our education up to date and further deepens it from practice
HAN	Education that meets the social (added) value criteria, sufficient scale and above-average quality
HRO	the mission, this is what we stand for: it is our mission to train every student to become the professional who makes a valuable contribution to society
HU	The connection between education, research and the relevant professional practice strengthens our impact in the region... be recognized and recognized as an organization that is valuable to its environment
Hanzehogeschool	In terms of content we focus on three spearheads that are closely related to the Northern Netherlands region: Energy, Healthy Aging and Entrepreneurship This gives us added value for our environment and strengthens our profile
HvA	The HvA is a knowledge institution of and for Amsterdam. It makes an important contribution to the development of the city through practical moments in education (via internships and labs), the entry of alumni into the labor market and practice-oriented research, often in collaboration with regional companies, organizations or institutions. This process of value creation from knowledge... and thus of the HvA

Table 7 List of output and outcome related indicators in annual reports

Indicator	Description	Type	HEI
Study yield	The share of re-enrollers that in the nominal study time+one year (C+1=5 years) obtains the bachelor's degree at	O	1 2 3 4 5 6 7 8 9 10
Study dropout	The share of the enrollers that no longer enters after one year of study from the university	O	1 2 3 4 5 6 7 8 9 10
Study switch	The share of the enrollers who is registered with another study program after one year of study from the university	O	1 2 3 4 5 6 7 8 9 10
Student satisfaction	The score on a 5 points scale in a (national) student survey	O+M	1 2 3 4 5 6 7 8 9 10
% slow students	The share of re-enrollers that studies longer than the nominal study time + one years (C+1=5 years)	O	1 2 3 4 5 6 7 8 9 10
% of alumni without a job	% of alumni not having found a job	M	1 7 8 10
% of alumni having found a job	of alumni having found a job within 18 months is better than national average	M	7
Salary of alumni after 18 months	Salary of alumni after 18 months is better than the national average	M	7
Alumni opinion	Evaluation by alumni	M	7
Research volume (1)	Research volume in Euros	O+M	7 8 9 10
Research volume (2)	Sum of external funding of research	O+M	8
Research volume (3)	Research volume in Euro > 10% of wages	O+M	7
Research volume (4)	Sum of research funded by contracts and subsidies is at least 25%	M	9
Research volume (5)	Outcome and impact of research	M	9
Innovation	# of innovation workplaces	M	9
Cultural activities	# cultural projects	M	9
Strategic partners	# of strategic cooperating partners	M	7

The numbers correspond with the following HEI: Inholland (1), Saxion (2), Fontys (3), Haagse (4), Avans (5), HAN (6), HRO (7), HU (8), Hanzehogeschool (9), HvA (10)

O output indicator from former level of agreements; M outcome indicator; O+M both are used

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Data Availability The data sources for this paper are the strategy plans and annual reports of ten Dutch universities of applied sciences, publicly available on the website of the Higher Education Institutes.

Declarations

Conflict of interest The author declares that they have no conflict of interest.

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Luc Salemans is a researcher at the Inholland University of Applied Sciences, Business Research Centre — team Finance & Accountancy. His research includes developments in management control systems, public sector accounting and governance. In his career he is a professional for the development of management control, treasury and performance management in profit and not-for profit organizations.

Dr. G.T. (Tjerk) Budding is program director of the postgraduate program for Certified Public Controller at the School of Business and Economics of the Vrije Universiteit Amsterdam, the Netherlands. His research interests include public sector accounting, privatization and e-government. He is co-author of the book *Public Sector Accounting* (London and New York: Routledge, 2015). Furthermore, he published in journals such as *Management Accounting Research*, *Financial Accountability & Management* and *International Public Management Journal*.