

Performance management and measurement impacts on universities: (re)viewing the past, present and future

PMM in
universities

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Abstract

Purpose – This paper undertakes a structured literature review to analyse the literature on performance management and measurement (PMM) in universities over the last four decades. Over that time, PMM has emerged as an influential force in universities that impacts their operations and redefines their identity.

Design/methodology/approach – A structured literature review approach was used to analyse a sample of articles on PMM research from a broad range of disciplines over four decades. This was undertaken to understand the impacts of PMM practices on universities, highlight changes over time and point to avenues for future research.

Findings – The analysis highlights the fact that research on PMM in universities has grown significantly over the 40 years studied. We provide an overview of published articles over four decades regarding content, themes, theories, methods and impacts. We provide an empirical basis for discussing past, present and future university PMM research. The future research avenues offer multiple provocations for scholars and policymakers, for instance, PMM implementation strategies and relationships with various government programs and external evaluation and the role of different actors, particularly academics, in shaping PMM systems.

Originality/value – Unlike a traditional literature review, the structured literature review method can develop insights into how the field has changed over time and highlight possible future research. The sample for this literature review differs from previous reviews in covering a broad range of disciplines, including accounting.

Keywords Performance management and measurement systems, Universities, Structured literature review, Higher education

Paper type Literature review

1. Introduction

Over the last four decades, public sector accounting has undergone significant transformation with the implementation of new public management (NPM) and new public



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financial management (NPFM) (Grossi *et al.*, 2023; Steccolini *et al.*, 2020). NPM developments, based on a quest for efficiency and value for money, have drawn research attention to accounting, budgeting, auditing, financial reporting and performance measurement in the public sector (Guthrie *et al.*, 1999), also covering performance management and measurement systems (PMM) in universities (Guthrie *et al.*, 1998, 1999; Kallio *et al.*, 2021; Olson *et al.*, 2001). Interestingly, these changes do not touch exclusively public universities but also affect all types of higher education institutions, whether public, private or hybrid. Decreases in public funding, increased competition and the adoption of new managerial practices have altered universities at both the organisational and individual levels (Grossi *et al.*, 2020a). PMM in universities has entailed cuts in funding and a market approach to managing universities (Martin-Sardesai *et al.*, 2017a, b; Parker *et al.*, 2023). A range of studies outlines concerns associated with this shift away from an academic approach to universities, particularly questioning the evaluation process associated with PMM (Grossi *et al.*, 2023), the commodification of academic labour (Gray *et al.*, 2002; Parker *et al.*, 1998) and compliance expectations of research performance (Martin-Sardesai *et al.*, 2020). These concerns can broadly undermine collegiality and the university's mission to work toward a public good (Parker *et al.*, 2023).

Recent developments in PMM include the concept of a university's third mission: engagement with society and industry. This means that universities can be evaluated on how much they contribute to the growth of economies and regions through cooperation with companies, governments and non-government organisations (Rosli and Rossi, 2016; Secundo *et al.*, 2023). This adds to the pressure on academics, who are expected to publish research in highly-ranked journals and have a heavy teaching load while undertaking management and administrative activities (Martin-Sardesai *et al.*, 2020). It is a symptom of an audit culture in which various aspects of university activity are measured and managed.

This context raises the question of an appropriate set of measures, which has been the subject of several studies (Manes-Rossi *et al.*, 2022; Martin-Sardesai *et al.*, 2017a, b). It also highlights issues around the gap between increased measurement and quality (Kallio *et al.*, 2021). There is a danger that academics focusing on maximising publications are aiming for quantity over quality, which may stifle innovative thinking and achieving new knowledge that contributes to the public good (Gray *et al.*, 2002; Kallio and Kallio, 2014; Parker *et al.*, 1998).

The research literature was missing a study exploring how research on PMM in universities has developed over decades. We undertake a structured literature review (SLR) (Massaro *et al.*, 2016) to investigate this theme, analysing PMM studies over four decades. Our analysis aims to provide insights into what has been done and the gaps in the literature that may point to future research, considering the possible relationships between the various topics covered by the PMM. We adopt the method used in previous SLR research by Massaro *et al.* (2016), which has been used in studies to identify how researchers conceptualise and critique the field being reviewed and explore the development of concepts, theories and methods adopted. As the field of study is ever-changing, this SLR analyses the development of the main critical elements. By reviewing the literature and tracking the changes in these elements, we propose an understanding of the field and its development over time. It builds a picture of a research field over a specific time frame; in our case, we cover a broad range of disciplines, not limited to the accounting literature. To guide our SLR, we pose the following research questions.

RQ1. How has research into universities' PMM developed over four decades?

RQ2. What has been the focus of the literature on universities' PMM and its findings?

RQ3. What could be the future of research into PMM in universities?

We find that there has been significant growth in the number of studies into PMM in universities over more than the 40 years examined, consistent with the emergence of NPM and NPFM over this period. Several authors have developed a specialisation in the field. There are authors from a relatively high number of institutions worldwide, although several jurisdictions are represented more. Many articles explore PMM and strategy and often adopt a case study approach. More than half the articles in our sample do not apply a theory; of those that do, the most used is institutional theory. Beyond the analysis results, the SLR allows us to identify future strands of research that might contribute to PMM research in universities and create the ground to revise PMM regulations by policymakers.

Our paper is structured as follows. [Section 2](#) outlines the method used to select and classify articles. [Section 3](#) discusses the findings of our analysis, and [Section 4](#) provides a discussion and highlights avenues for future research. [Section 5](#) concludes and outlines the limitations of the study.

2. Method

This section outlines the SLR approach, including the selection criteria and review process. Research into PMM in universities has been published in various disciplines and journals. We chose the time frame of four decades as it covers the period of the introduction of NPM and NPFM developments and provides insights into their impact on universities. The rigour of the SLR method relies on developing a classification framework to ensure each article is assessed consistently ([Mauro et al., 2017](#)). The following outlines the steps to build the data set and implement the analytical framework.

2.1 Article selection

The first step of the SLR is to establish inclusion criteria (see [Table 1](#)). We searched using these criteria in two databases, Scopus and ISI Web of Science, using the following keywords: “performance measurement” OR “performance management” OR “management accounting” OR “managerial accounting” AND “universit*” OR “higher education”. We searched for articles published in both databases. We searched the social sciences disciplines and the research areas of business economics and public administration to ensure we captured articles published about PMM in universities from a broader range of disciplines than just accounting ([de Villiers and Dumay, 2013](#)). We also limited the search to publications in English in peer-reviewed journals (no books, book chapters, calls for articles or other kinds of

Inclusion criteria	Peer-reviewed journal articles focused on <ul style="list-style-type: none"> • performance measurement • performance management • management accounting • managerial accounting • universities • higher education
Exclusion criteria	<ul style="list-style-type: none"> • Conference proceedings, reviews, letters, notes, editorials, books, book chapters, conference reviews, debates, commentaries, dissertations • Articles with a focus on PMM but not in universities • Non Q1 and Q2 articles published in journals included by the SCImago ranking categories: Accounting/Business, Management and Accounting (miscellaneous), Public Administration, Business and International Management, and Education • Articles excluded after assessment by authors

Source(s): Authors' own work

Table 1.
Inclusion and
exclusion criteria

publications). Our search initially identified 2,292 articles. A search for duplicates eliminated 99 articles, leaving 2,193 articles.

We then established exclusion criteria (Ardito *et al.*, 2015), assessing each article against these criteria. Three authors read (individually) the titles and abstracts of the articles to make classifications useful for the SLR. Then, all the authors discussed collegially the results, solving possible coding ambiguity. As a result, the following were excluded: 992 articles in which PMM is not the main topic, but it is incidentally mentioned; 694 papers focusing PMM in fields other than universities; 20 articles with abstracts in English but full text in other languages.

To ensure the quality of findings, following previous SLR studies (Bisogno *et al.*, 2018), the authors decided to focus the study only on scientific contributions published in high-quality journals, eliminating not Q1 and Q2 articles published in journals included by the SCImago ranking categories, Accounting/Business, Management, Accounting (miscellaneous), Public Administration, Business and International Management and Education (295). The list of eligible articles for this SLR (192) was finally revised by the first author with the support of external experts in the field to integrate any relevant missing articles. With this last step, the number of articles rises to 220.

Table 2 outlines the articles in our sample.

2.2 Structured literature review framework

The second step of the SLR is to develop a classification framework to ensure each article is assessed consistently and comprehensively, which we did following previous SLRs (e.g. Bisogno *et al.*, 2018; Dumay *et al.*, 2018; Mattei *et al.*, 2021). We defined categories as in Dumay *et al.* (2018). As in Bisogno *et al.* (2018), we excluded any articles with a different organisational focus, as we focus only on universities. Table 3 outlines the categories. There are 38 units of analysis. However, the total number for some categories (A, D and G) differs from the total number of articles. For example, the total number in category A (Authors and institutions) is greater due to multiple collaborations in several works. For categories D and G, several articles have a multiple focus or theory and are therefore represented in more than one category. Any issues relating to the category of the articles were clarified by reading the full-text several times to ensure the relevance of the criteria adopted in classifying the article.

Time frame	Papers published	Accounting journals	Public administration journals	Education journals	Business and international management journals
1980–1984	3	1	0	2	0
1985–1989	7	5	2	1	0
1990–1994	11	7	0	4	0
1995–1999	4	2	1	2	0
2000–2004	19	12	3	5	1
2005–2009	18	9	5	7	2
2010–2014	44	28	11	15	3
2015–2019	71	26	15	33	9
2020–2021*	43	29	7	7	12
Total**	220	119	44	76	27

Table 2. Articles identified in 5 years and SCImago categories

Note(s): *Two years of data: **The number of frequencies (119 + 44 + 76 + 27 = 266) is higher than instances (220), as a journal can be classified in more than one subject category

Source(s): Authors' own work

	No.	%
<i>A. Authors and institutions</i>		
A1. Author name (unique/total)	401/515	–
A1.1 Academics (total)	487	94.6
A1.2 Practitioners (total)	28	5.4
A2. No. of articles with academics and practitioners in co-authorship	15	6.8
A3. No. of authors with more than one article	64	16.0
A4. Collaborations: Average number of authors per article	2.34	
A5. Institution (unique) ⁽¹⁾	240	–
<i>B. Country of research of the first author</i>		
B1. Asia	24	10.9
B2. Australasia	43	19.5
B3. Europe	84	38.2
B4. North America	21	9.5
B5. United Kingdom	40	18.2
B6. Others (Norway, Russian Federation, Switzerland, Uganda)	8	3.7
<i>Total</i>	220	100.0
<i>C. Jurisdiction</i>		
C1.1. Supranational/international/comparative – general	20	9.1
C1.2. Supranational/international/comparative – industry (university)	11	5.0
C1.3. Supranational/international/comparative – organisational	16	7.3
C2.1. National – general	7	3.2
C2.2. National – industry (university)	43	19.5
C2.3. National – organisational	69	31.4
C3. One organisation	54	24.5
<i>Total</i>	220	100.0
<i>D. Focus of the article⁽²⁾</i>		
D1. Strategy	103	34.1
D2. Activities and Processes	70	23.2
D3. Performance target	69	22.9
D4. Reward system	30	9.9
D5. Information system	30	9.9
<i>Total</i>	302	100.0
<i>E. Research method</i>		
E1. Case/field study/interviews/action research	113	51.4
E2. Content analysis/historical analysis/other textual analysis	15	6.8
E3. Survey/questionnaire/other empirical	53	24.1
E4. Theoretical/normative/policy	27	12.3
E5. Literature review	4	1.8
E6. Viewpoint/commentary	8	3.6
<i>Total</i>	220	100.0
<i>F. Theory applied</i>		
F1. Theory not applied	121	55.0
F2. Theory applied	99	45.0
<i>Total</i>	220	100.0

(continued)

Table 3.
The analytical
framework and
descriptive results

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	No.	%
<i>G. Theory applied</i> ⁽³⁾		
G1. Agency theory	9	7.8
G2. Critical theory	15	13.0
G3. Institutional theory	39	33.9
G4. Legitimacy theory	1	0.9
G5. Other theories	51	44.4
<i>Total</i>	115	100.0

Note(s): (1) Two or more departments of the same university are considered the same institution

(2) The number of frequencies is higher than the number of instances, as an article can have more than one main focus

(3) The number of frequencies (115) is higher than the number of instances (99), as 85 articles applied only one theoretical approach, 12 articles applied two theoretical approaches and two articles applied three theoretical approaches

Table 3.

Source(s): Authors' own work

This meant we did not need to conduct a reliability check like Krippendorff's α , as the three authors undertaking the coding resolved any disagreement.

While most categories are self-explanatory, category D, *Focus of the article*, requires further explanation. Here, we classified the articles according to their specific PMM focus, determined following Otley (1999). Otley's (1999) model considers five stages in developing a performance management system: strategy, activities and processes, performance target, reward system and information system. Stages 1 ('strategy') and 2 ('activities and processes') reflect the setting of strategic objectives, which influences activities and processes and the performance measures used. Stage 3 establishes a coherent set of performance measures and targets. Stage 4 ('reward system') examines the potential rewards that might reinforce the performance measures and influence managers' behaviours towards the established targets. Stage 5 ('information system') considers the information system needed to evaluate performance and enable learning.

2.3 Article impact

The third step of the SLR is to retrieve the number of citations for each article (Bisogno *et al.*, 2018; Dumay *et al.*, 2018), which we did using Google Scholar, downloading citations as of 15 July 2022. Google Scholar is a wide-reaching citation analysis tool that includes a broader range of journals than SSCI and Scopus. Given that the publication date may affect citation scores, Table 4 ranks article impact by citation based on the average number of citations per year (CPY).

Three articles published in the last 5 years have the most citations, and nine of the top 20 articles by citation have been published in the last 5 years.

3. Findings and analysis

This section answers our first two research questions. RQ1. How has research into universities' PMM developed over four decades? RQ2. What has been the focus of the literature on universities' PMM and its findings? The following sub-sections outline the findings for each category in our framework. As the analysis covers 40 years, we present our findings in 5-year blocks, with a final 2-year block (2020–2021). Several patterns emerged from the sample.

Author (year)	Title	CPY
1. Cadez <i>et al.</i> (2017)	Research, teaching and performance evaluation in academia: The salience of quality	45.20
2. Alexander (2000)	The changing face of accountability: Monitoring and assessing institutional performance in higher education	44.82
3. Grossi <i>et al.</i> (2020a, b)	Accounting, performance management systems and accountability changes in knowledge-intensive public organisations: A literature review and research agenda	41.50
4. Secundo <i>et al.</i> (2017)	An intellectual capital framework to measure universities' third mission activities	40.80
5. Enders <i>et al.</i> (2013)	Regulatory autonomy and performance: The reform of higher education re-visited	40.44
6. Camilleri (2021)	Using the Balanced Scorecard as a performance management tool in higher education	40.00
7. Ter Bogt and Scapens (2012)	Performance management in universities: Effects of the transition to more quantitative measurement systems	32.00
8. Covaleski and Dirsmith (1988a)	An institutional perspective on the rise, social transformation and fall of a university budget category	30.74
9. Cricelli <i>et al.</i> (2018)	Intellectual capital and university performance in emerging countries: Evidence from Colombian public universities	30.25
10. Foy <i>et al.</i> (2019)	Managing job performance, social support and work–life conflict to reduce workplace stress	30.00

Source(s): Authors' own work

Table 4.
Top 10 citation classics
by CPY

3.1 Authors and institutions

Our analysis identifies 401 authors of 220 articles, with only a few articles authored by practitioners. We recognise a group of authors who publish in this research field (e.g. Guthrie, 11 articles; Martin-Sardesai, 11 articles; Grossi and Parker, 6 articles). A relatively high number of institutions with which authors are affiliated (240) indicates widespread interest in the theme globally. The number of articles by a single author progressively decreased over the 40 years observed, with half the articles co-authored by three or four authors since 2015.

3.2 Country of research of the first author

Researchers investigating PMM come from six groups of countries. While no European first author was identified till 2000, the total number of European researchers exceeds that of authors from other geographical areas, with a progressively increasing number of publications observed in the last three periods (2010–2021). Authors came from EU-27 (23 of 84 European articles are from Italian authors) (e.g. [Arnaboldi and Azzone, 2004, 2010](#)), Australasia (37 from Australia and 6 from New Zealand) (e.g. [Christopher and Leung, 2015](#); [Narayan, 2020](#); [Parker and Guthrie, 2005](#)) and the United Kingdom (40) (e.g. [Agyemang and Broadbent, 2015](#)). There has been a growing number of Asian authors from various countries (e.g. China, Japan and India, in the last three periods) (e.g. [Amin *et al.*, 2014](#); [Kumar and Thakur, 2019](#)). The number of articles published by North American authors (including Canada and the US) changed little over the periods analysed (e.g. [Alexander, 2000](#); [Covaleski and Dirsmith, 1988a, b](#); [Rigby *et al.*, 2021](#)). The number of articles from other countries (Norway, 3, Switzerland, 2, Russia, 2 and Uganda, 1) is low. All of these were published after 2010. There are no contributions from South America and Africa, except that of Uganda's [Nambi Karuhanga and Werner \(2013\)](#).

This distribution may be the result of the adoption of NPM and PMM in the first authors' country of affiliation as a response to the commodification of universities and academic labour (e.g. [Guthrie *et al.*, 2004](#)), and an investigation of the intended and unintended

consequences of the performance-driven context more generally. Reflections about PMM adopted in universities in Anglo-Saxon countries (Guthrie and Neumann, 2007) and in universities in other countries where NPM logic and NPFM practice fostered the adoption of internal and external performance evaluation (Rebora and Turri, 2011) have developed over the four decades of our research.

There are 39 countries represented by the country of research of the first author, again confirming widespread interest in the field.

3.3 Jurisdiction

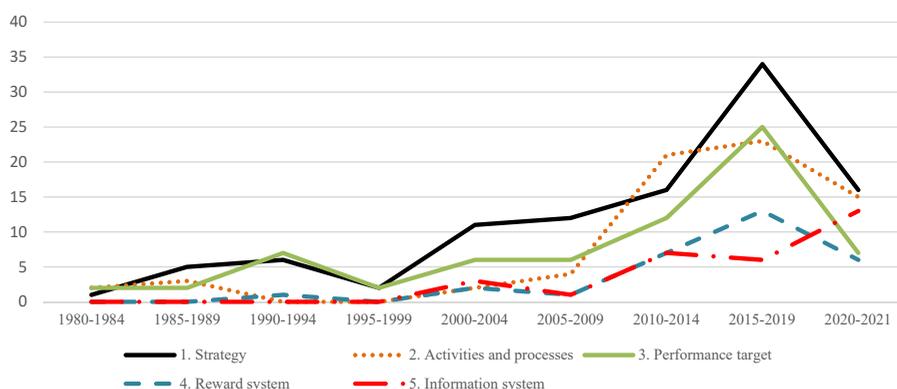
As in Guthrie *et al.* (2012) and Dumay *et al.* (2018), the category for jurisdiction has been assigned according to the dominant focus of the study. C1.1 Supranational/international/comparative – general includes research following a broad approach or applied in a global setting, such as articles embracing a theoretical perspective (e.g. Vakkuri and Johanson, 2020), a wide range of viewpoints (e.g. Guthrie *et al.*, 2019) or a literature review (e.g. Argento *et al.*, 2020). The articles in the category C1.2. Supranational/international/comparative – industry (university) offers a comparative view of developments adopted in different countries. This group of articles has grown significantly in the last decade, as only one article was published before 2010. Sizer *et al.* (1992) compared experiences in a multi-country setting (Denmark, the Netherlands, Norway, Sweden and the UK). More recent articles follow developments applying similar PMM practices in different countries and how these are operationalised in various cultural and administrative settings. For instance, Teixeira *et al.* (2021) compare how European universities take advantage of financial incentives and react to public funding opportunities, changing their PMMs to stabilise financial resources. Frequently, comparative research in this category covers countries with similar traditions, such as Anglo-Saxon countries (Martin-Sardesai *et al.*, 2017a), East-European countries (e.g. Dobbins and Leišyte, 2014), German-speaking countries (Heinicke and Guenther, 2020) and Nordic countries (Pettersen, 2015).

Similarly, several articles are included under C1.3. Supranational/international/comparative – organisational, feature comparative research focused on institutions in different countries. The number of these articles has grown, especially after 2010. Several articles compare organisations from different countries, sometimes with similar traditions and environments (e.g. Chatterjee *et al.*, 2020; Decramer *et al.*, 2012) and those countries with different PMM systems (e.g. Gao, 2018 compared indicators for measuring university internationalisation performance between 17 universities located in Australia, Singapore and China).

The same applies to the other three categories (C2.1. National – general; C2.2. National – industry (university); C2.3. National – organisational), which cover more than half of the sample (119 articles). This local presence highlights that researchers are particularly interested in interpreting and analysing the context in which they operate. Also, 54 articles focus on one organisation, using a case study method or a survey, indicating a willingness to investigate how PMM is practised in depth within a university. Articles included in this category notably emerged in the decade 2005–2014, covering 24 countries located in all the different geographic areas. This demonstrates that PMM techniques – the Balanced Scorecard (Papenhause and Einstein, 2006), the effects of PMM adoption (Melo *et al.*, 2010), resource allocation (Tahar and Boutellier, 2013), budget preparation (Ozdil and Hoque, 2017) and research performance (Kim and Bak, 2020) – have been researched.

3.4 Performance measurement and management focus

We identified five stages in developing a PMS and its management. The below analysis mainly deals with the article's principal focus (see Figure 1). These stages are strategy, activities and processes, performance target, reward system and information system.



Source(s): Authors' own work

Figure 1.
PMM focus

As illustrated in Figure 1, articles included in the D1. Strategy span all periods. Strategy is the dominant focus for 103 articles published over four decades. Most of these articles (60) discuss how government bodies and academics use PMM to define strategies and performance measures (e.g. Parker, 2013). Several articles, especially in the latter years (e.g. Martin-Sardesai *et al.*, 2020), simultaneously consider the relationship between PMM, strategies and activities/processes. The impacts on funding (Dougherty and Natow, 2020; Fadda *et al.*, 2021), the symbolic use of data and related changes in power relations (Habersam *et al.*, 2021) are also discussed.

Articles included in D2. Activities and processes deal with tools like the Balanced Scorecard (Papenhause and Einstein, 2006; Taylor and Baines, 2012), budget preparation (Robertson and Germov, 2015) and the use of PMM, investigating the contrasting logics in hybrid universities (Grossi *et al.*, 2020b). Of the 70 articles in the D2. category, 27 have a broader focus that includes D1. Strategy (12 articles) (e.g. Kallio *et al.*, 2021) and D3. Performance target (9 articles) (e.g. Cugini *et al.*, 2011).

D3. Performance target has 37 articles (out of 69) explicitly focusing only on performance goals. More than half of the articles (26) adopt a case study method using a country as a case (e.g. Modell, 2003), which gives insights into and interpretation of antecedents, impact and consequences of PMM.

The articles in our sample discuss performance targets for university performance, especially in the first periods of research (e.g. Ball and Wilkinson, 1994; Cave *et al.*, 1989), and specific topics, such as intellectual capital (Secundo *et al.*, 2010), funding (e.g. Teixeira *et al.*, 2021), internationalisation (e.g. Gao, 2018) and assessment of individuals (e.g. Camilleri, 2021). For instance, Cutt *et al.* (1993) propose performance measure attributes to assess teaching activities. Upton *et al.* (2014) discuss research evaluation in the UK, suggesting replacing impact-based evaluations with a process-based approach. Secundo *et al.* (2017) adopt an intellectual capital perspective to suggest performance measures for third-mission activities.

The discussion around how PMM can be implemented and used to adopt a reward system (D4. category) has attracted attention (30 articles), mainly from 2014 onwards, suggesting a connection between reward systems and PMM. These articles are mainly quantitative, often using surveys (e.g. Kallio and Kallio, 2014).

D5. Information system focuses on the relationship between PMM and university information systems. A case study method has been used in nine articles, and most studies were published after 2010.

To establish whether the research focus relates to the journal category, we considered the distribution of articles throughout the four categories of journals included in the analysis. As Table 5 highlights, the publication area slightly affects the distribution. Only journals in education show a higher prevalence of articles discussing performance targets, while for the others, the distribution of articles mirrors the focus distribution.

3.5 Research methods

Research methods are coded by the primary method employed. There are 113 articles in the E1. Case/field study/interviews/action research category. This set of articles includes a single case study (e.g. Cadez *et al.*, 2017; Cricelli *et al.*, 2018; Kim and Bak, 2020), comparative case studies belonging to the same country (e.g. Pietilä and Pinheiro, 2021; Pilonato and Monfardini, 2020) and to different countries (e.g. Broucker *et al.*, 2021). There are also articles using action research (e.g. Agostino and Arnaboldi, 2017) and interviews (e.g. Field, 2015; Parvin, 2019).

The category E2. Content analysis/historical analysis/other textual analysis relates to the analysis of the written text. These articles have been particularly prevalent recently, with nine of 15 appearing after 2016. Articles in this category analyse different kinds of documents, such as annual reports (e.g. Dixon *et al.*, 1991), reports from research assessment exercises (Hamann, 2016) and performance reports published by universities (e.g. Angiola *et al.*, 2018).

The category E3. Survey/questionnaire/other empirical studies include surveys, questionnaires and experimental research, as well as research based on regression analysis. There are 53 articles in this group, representing less than 25% of the total number of articles. In many articles, extensive surveys have been utilised for all universities in the same country (e.g. Venieris and Cohen, 2004 in Greece; Martin-Sardesai *et al.*, 2020 in Australia) and even several countries (e.g. Teelken, 2015 with a survey covering the Netherlands, Sweden and the UK).

The category E4. Theoretical/normative/policy relates to articles adopting a theoretical perspective and using advanced methodologies. Among the 27 articles in the group, discussions around the role of PMM in higher education dominate (e.g. Kantabutra, 2010; Sizer, 1981; Vakkuri and Johanson, 2020). Several articles discuss the impact of NPM developments on PMM within a specific national context (e.g. Agyemang and Broadbent, 2015; Turri, 2014).

Journal category	PMM focus					Total
	1. Strategy	2. Activities and processes	3. Performance target	4. Reward system	5. Information system	
Accounting/ Business, Management and Accounting	35.0%	27.5%	18.8%	7.5%	11.2%	100.0%
Public Administration	33.3%	20.0%	25.0%	11.7%	10.0%	100.0%
Education	28.6%	20.0%	34.3%	10.5%	6.6%	100.0%
Business and International Management	31.6%	26.3%	13.1%	7.9%	21.1%	100.0%

Source(s): Authors' own work

Table 5. Distribution of articles for focus areas and journals

There are several articles in the E5. Literature Review category. Despite growing academic interest in PMM in universities, few systematic literature reviews exist. An exception is [Ho et al. \(2006\)](#), focusing on four major higher education decision problems, including performance measurement, from 1996 to 2005. [Argento et al. \(2020\)](#) present an SLR highlighting that a growing number of studies focus on the hybridisation of universities, not only in calculative practices but also in individual actors who may have divergent values and, therefore, act according to multiple logics (business and academic). [Grossi et al. \(2020b\)](#) review accountability, performance management systems and accounting, showing that a growing number of studies focus on hybridisation in knowledge-intensive public organisations, not only in terms of accounting techniques (e.g. performance indicators, budgeting and reporting) but also individual actors (e.g. professionals and managers). The authors also call for further theorisation on the role of individual actors in the design, implementation and use of accounting techniques and performance evaluation and more in-depth investigation of actual practices.

Finally, there are 8 articles in the E6. Viewpoint/commentary articles written by eminent scholars in the field of PMM (e.g. [Broadbent, 2010](#); [Parker and Guthrie, 2005](#)).

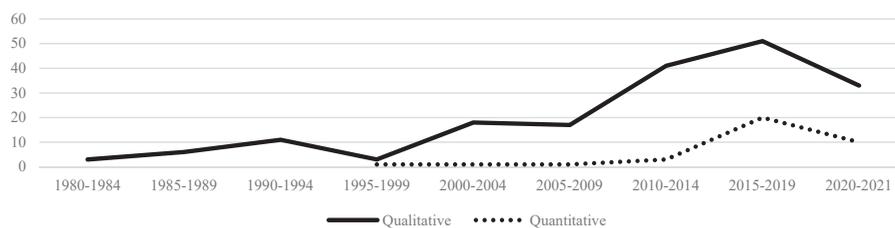
Using qualitative and quantitative methods ([Figure 2](#)), case studies and theoretical articles have been published in all periods, even if theoretical research has progressively reduced in numbers. Case studies peaked in 2005–2014 (with 47 of 113 articles), possibly due to research interest in the effects of NPM developments (e.g. [Dobbins and Leišyte, 2014](#); [ter Bogt and Scapens, 2012](#)). Conversely, studies based on surveys/other empirics have expanded significantly after 2015 (45 of 53 articles), with articles examining a large sample of universities in the same country (e.g. [Fadda et al., 2021](#)) and different countries (e.g. [Andersson and Sund, 2022](#); [Camilleri, 2021](#)).

3.6 Theories used

In accounting studies, theories are applied mainly to provide an interpretive lens to understand phenomena better and “to discover, illustrate, specify or refute theory” ([Lukka and Vinnari, 2014](#), p. 1309).

[Figure 3](#) highlights the distribution of articles applying a theory or otherwise over time. More articles (121) do not use theory than do use theory (99). Interestingly, in the last 2 years (2020–2021), the situation has reversed, with 28 articles adopting a theory, 15 not and a large variety of theories applied ([Table 6](#)). The development of PMM could pave the way for different theoretical approaches, thus complementing the existing landscape, progressively abandoning the prevalent adoption of institutional theory perspectives or integrating them to interpret better what is happening in the higher education sector.

Following [Dumay et al. \(2018\)](#), we searched for the application of a theory and then identified a dominant theory. If an article discusses several theories but applies a specific one in its



Source(s): Authors' own work

Figure 2. Research methods, qualitative and quantitative research

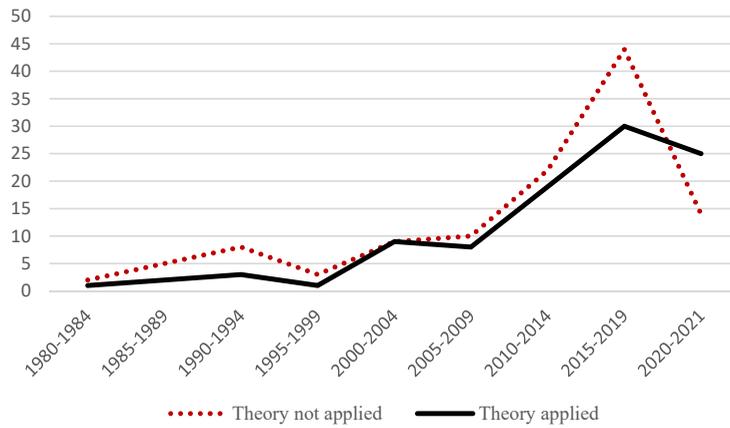


Figure 3.
Theories applied

Source(s): Authors' own work

Theories	1980–1984	1985–1989	1990–1994	1995–1999	2000–2004	2005–2009	2010–2014	2015–2019	2020–2021	Total
1. Agency					3		2	2	2	9
2. Critical				1	2	1	3	7	1	15
3. Institutional	1	2			1	4	7	12	12	39
4. Legitimacy									1	1
5. Others			3		3	5	12	10	18	51
Total	1	2	3	1	9	10	24	31	34	115

Table 6.
Theories applied

Source(s): Authors' own work

analysis, this theory is identified and coded (e.g. [Martin-Sardesai and Guthrie, 2021](#)). Also, authors may use different expressions to reference similar theoretical perspectives. For instance, institutional logic, institutional theory and neo-institutional theory have been coded under the broad label of institutional theory. Following [Dumay et al. \(2018\)](#), the final categories have been applied as follows: G1. Agency theory includes agency, signalling, proprietary costs and other economic-based theories (e.g. [Enders et al., 2013](#); [Talib, 2001](#)); G2. Critical theory embeds a theory such as critical social theory (e.g. [Martin-Sardesai et al., 2017a, b](#); [Kallio et al., 2017](#)) and power relations (e.g. [Kenny, 2018](#)); G3. Institutional theory includes several iterations of this theory, such as neo-institutional framework (e.g. [Boitier and Rivière, 2013](#)), middle-range thinking (e.g. [Agyemang and Broadbent, 2015](#)) and multiple institutional logics ([Pettersen, 2015](#)); G4. Legitimacy theory is applied in one article ([Teixeira et al., 2021](#)) and G5. Other theories are those that cannot be considered part of the previous categories (e.g. [Dobbins and Leišyte, 2014](#); [Esposito et al., 2013](#)).

In the first decade, an institutional perspective was often applied (e.g. [Covaleski and Dirsmith, 1988a](#); [Lindsay, 1981](#)), and institutional theory has been adopted over time by more than one-third of the articles applying a theory; it was the dominant theory used for research into PMM in universities. Since 2010, the theoretical lens adopted has expanded to include agency theory (e.g. [Rabovsky, 2014](#)), critical approaches (e.g. [Morrissey, 2015](#)) and several other theories (e.g. [Foy et al., 2019](#); [Hamann, 2016](#)). Legitimacy theory is largely absent.

4. Future of PMM research in universities

In this section, we aim to answer our third research question: **RQ3** What could be the future of research into PMM in universities?

To answer this question, we focus on the most recent research. For the rest of 2021 and 2022, 19 articles were identified. Among the 19 articles, 15 belong to six journals, namely the *International Journal of Public Administration* (4 articles), *International Journal of Productivity and Performance Management* (3 articles) and *Qualitative Research in Accounting and Management, Accounting, Auditing and Accountability Journal, Financial Accountability and Management and Higher Education* (2 pieces per journal).

In this section, several research themes are identified from the articles: (1) university performance in terms of efficiency and effectiveness; (2) links between funding system and performance measurement of universities; (3) focus on techniques and measures of performance in universities; (4) the role of various actors in PMM systems; (5) a focus on structural and strategic changes.

First, there is research interest in a university's performance in terms of efficiency (Agasisti and Shibanova, 2022; Andersson and Sund, 2022) and effectiveness (Kivipöld *et al.*, 2021; Kure *et al.*, 2021) and in research trying to identify the governance rules affecting performance (Broucker *et al.*, 2021). Kure *et al.* (2021) demonstrate that ineffective performance relies on illusory control practices that cannot make managers accountable for results.

Second, another research focus is on the links between funding systems and performance measurement of universities. For instance, Teixeira *et al.* (2021) discuss performance-based funding systems in European universities and their institutional effects in terms of financial incentives, and Fadda *et al.* (2021) research the links between performance-oriented funding systems and competitive allocation mechanisms to provide universities with a staff recruiting budget in Italy.

Third, a focus on specific techniques and measures of performance in universities. For instance, Jalali Aliabadi *et al.* (2021a, b) focus on the budgeting system, disentangling the actors' role in tensions and resistance to change in the resource allocation process in Iran, whilst Rigby *et al.* (2021) focus on the design, development and implementation of a revenue and cost allocation process of activity-based budgeting in Canada. Rana *et al.* (2022) shed light on how New Zealand universities generate institutionalised performance reporting introduced by a public sector regulation.

Fourth, the role of various actors in PMM systems is investigated in several different articles. For instance, Kallio *et al.* (2021) analyse institutional logic and scholars' reactions to performance measurement in Finnish universities. Pietilä and Pinheiro (2021) use institutional logic to understand the logic underpinning Finnish universities' tenure track career system. Sukoco *et al.* (2021) analyse Indonesian universities' middle management capabilities and link them to organisational performance. Hutaibat *et al.* (2021) investigate the academic and managerial performance elements in UK universities and how these relate to academic values and managerial control practices, which may create a specific performance management and measurement approach.

Fifth, there is a focus on structural and strategic changes in university systems and the changes in power relationships, which might also impact academic identity. For instance, Gebreiter (2022) investigates the effects of university corporatisation on accounting academics in a research-intensive English business school that embraced managerialist and marketised approaches to Higher Education. The paper connects this transformation of the accounting department to the growing emphasis on research and teaching performance management measures in the English higher education system. Habersam *et al.* (2021) investigate the implementation of a calculative regime for higher education systems, highlighting the conditions and unintended consequences that occur over time in the

development of the Austrian higher education systems. They find that the dynamics initiated by new calculative regimes need a sensitive framework to handle dissent, resistance, tactical behaviours and changes in power relations between actors and organisational levels. [Argento and van Helden \(2023\)](#) also question the risk of an identity shift caused by the dominance of journal ranking as an indicator of research quality. [Parker et al. \(2023\)](#) discuss neoliberal policies that impact Australia's public higher education system, creating a "financial crisis" with tens of thousands of university staff losing their jobs and courses being cut. The quantified performance metrics associated with the accountingisation of individual academic and university performance have become universities' new language, where revenue generation and expenditure have been privileged over contributing to the nation and society.

Having established recent developments in the literature, we see how these trends point to future research avenues on performance measurement and management in universities.

The first avenue is linked with PMM implementation strategies associated with the policies imposed by external evaluation of universities. Further insights could be developed by considering the US and New Zealand experience and comparative experiences, in line with [Chatterjee et al. \(2020\)](#), to strengthen results in and amongst countries other than Oceania and Europe. Further, while the research shows a consistent number of authors from the UK and Australia, followed by the US, Italy and a few other European countries, many other countries are not represented.

There is room to problematise how universities can tailor their internal PMM strategies beyond the specific requirements and expectations by external evaluation policies, balancing the need to meet standards and leverage PMM as a tool for improvements. Ensuring alignment with accreditation standards demonstrates the university's commitment to meeting recognised benchmarks for quality and performance. Nonetheless, the accreditation standards implicitly set criteria that can lead to unintended consequences, sometimes threatening the role and identity of academics ([Gendron, 2015](#); [Argento et al., 2020](#)).

Integrating these external performance measures and policies with the university's strategic planning process is a double-edged sword: on one side, it ensures that performance goals align with external evaluation criteria; on the other side, it reinforces the strategic relevance of PMM efforts for external assessment and makes PMM less meaningful to support autonomous decision-making, to understand tailored risks and uncertainty and to contrast commercialisation and publication game in academia.

It is worth investigating how a strong emphasis on teaching and learning outcomes is often a component of external evaluation standards. It challenges the university's compliance with an evaluation mechanism, often including student outcomes assessment, with limited consideration of contextual factors.

PMM implementation strategies, associated with the imposed external evaluation policies, question the role of accountability and the reporting frameworks. Implementing reporting mechanisms based on external evaluation criteria requires universities to focus on a specific kind of accountability and reports, whilst other accountability and reporting tools may be neglected or reduced. Future research might consider stakeholders' role in redesigning internal PMM strategies and systems to be more inclusive and reflective of the university community's multiple perspectives (faculty, students and administrators).

A second avenue concerns academic strategies in response to various government agendas, such as the imposition of financial measures of performance ([Christopher and Leung, 2015](#)) or national research assessments ([Martin-Sardesai et al., 2017a, b](#)), that can lead to unintended consequences. One example is the commercialisation of Australian universities ([Parker et al., 2023](#); [Martin-Sardesai and Guthrie, 2021](#)), which implies new forms of accountingisation of individual academics and university performance and, in turn, the distortion of research activities to increase profits. [Parker et al. \(2023\)](#), discussing this

transformation, pose questions about the roles and impacts of government versus university management versus community. An examination of the implications and ethical considerations associated with the changes brought about by financial measures and research assessments is worth academic reflections. The avenue can be further developed by considering how the imposition of financial measures and national research assessments impact universities' strategies. A topic concerns how financial metrics and research assessments may introduce performance indicators that influence decision-making at both individual and institutional levels, potentially producing unintended consequences. For instance, how can the shifts in priorities affect the quality and integrity of academic research? How does the commercialisation of universities, through a transformation like academic activities, with a greater emphasis on profit generation, potentially compromise academic integrity and the pursuit of knowledge for its own sake? The roles and impacts of various stakeholders in this transformation could also pose inquiries about the dynamic of responsibilities among the government, university management and the broader community in shaping the direction of academic institutions for navigating the challenges given by government agendas.

A third avenue touches upon the role of different actors and their logic in PMM and universities. PMM involves systematically defining, tracking and assessing various indicators to understand the institution's effective functioning and continuous improvement. For instance, [Facchini and Fia \(2021\)](#) focus on the role and responsibilities of university management in the implementation of the NPM reform agenda in Italian universities, whilst [Han and Xu \(2019\)](#) explore the changing governance of higher education in China between 1978 and 2018, highlighting how various logics changed over time. [Grossi et al. \(2020b\)](#) identify the need for further research on the role of different actors in the design, implementation and use of accounting and performance systems in practice. [Narayan \(2020\)](#) argues, in a New Zealand context, that NPM initiatives and the multiple logics of government policies have created a web of unintended consequences, criticism and complications that deserves further attention. The role of different actors and their logic and responsibilities is crucial in the domain of PMM in universities. It can be further explored by considering and integrating the perspectives of various actors, namely university management, academic faculty, administrative staff, students, governments, accreditation bodies and community and industry partners. In this vein, future research may investigate how and to what extent the university management is concerned with resource allocation, academic excellence, financial sustainability and overall institutional reputation, but also how all administrative activities related to measuring and monitoring all the facets of university's performance is creating an additional burden. Understanding these actors' diverse roles, responsibilities and logic and creating a balance between indicators and reports is essential for effectively designing and implementing university PMM systems. Balancing the interests and expectations of various stakeholders contributes to the overall success and sustainability of the institution, creating an equilibrium between different (and sometimes contrasting) logics.

A fourth avenue can be considered in connection with the last two, which touches on the role and identity of academics and is well known as the "publication game" or "publish-or-perish regime" ([Becker and Lukka, 2023](#); [Gebreiter, 2022](#)). However, the debate around the distortive effect of performance measurement schemes based on journal metrics is all but new ([Gendron, 2008](#)). Because of the extensive metrification applied by universities and the digitalisation of performance measures. Scholars recently called for an epistemic method that is reflective and interactive to fight the dysfunctional effect of the "publication game" ([Mauro et al., 2024](#)) to dismantle the risk that academics investigating specific fields can act as a 'machine of production' ([Ramassa et al., 2023](#)) overlooking their contribution to society ([Argento and van Helden, 2023](#)). Empirical research highlights that accounting (and

organisational studies) scholars consider the danger of a research monoculture because of using journal lists, leading to technically well-executed but tedious research and shifting research from meaningful debate (Brooks *et al.*, 2023). There is room to investigate the role of academics in academia regarding the “publication game”, the part of the academic environment (including academic societies), the scholarly identity, the performance metrics of evaluation, the societal impact of research and the open science movement.

The context (academia) role may foster a culture where the quantity and impact of publications play a significant role in an academic’s professional success. A focus on quantity over quality and potential neglect of broader societal impacts of research. The scholarly identity is deeply intertwined with pursuing knowledge, critical inquiry and disseminating research findings and is affected by performance metrics. Also, academics are evaluated based on performance metrics frequently used for performance assessments, promotion decisions and securing research funding. There is a need to understand how to prioritise research with broader societal impact, possibly engaging with diverse audiences beyond the academic community. Lastly, a growing movement advocates for open science practices, transparency and reproducibility in research. Open science challenges traditional notions of academic success tied solely to high-impact journal publications and encourages a more collaborative and open approach to knowledge creation.

The “publication game” reflects the complex interplay between academic identity, institutional expectations and external pressures. The ongoing discussions in academia focus on finding a balance between productivity and quality, redefining success metrics included in PMM and promoting research that has meaningful contributions to the academic community and society.

Last, the SLR analysis finds that the published output of 220 articles is produced by 401 authors affiliated with 240 institutions, indicating a global foundation for PMM research in universities. Future research should extend this diversity to further inter- and multi-disciplinary approaches.

5. Conclusion

This study aimed to explore published research into PMM in universities. By applying an analytical framework consistent with prior accounting SLR studies, we sought to gain a picture of the research over a specific time frame and to understand the characteristics of the research across the categories of researcher contribution (authorship) and location (institution affiliation and country spread), jurisdiction (dominant approach), focus (topic themes), data collection approach (method) and theory (theory applied, if any). To that end, we provide an overview of published research articles over four decades regarding content, themes, theories, methods and impacts. Based on these findings, we then provide avenues for future research.

Our SLR is not exempt from limitations. First, while covering four decades of research, starting from 1980, we focus on journals ranked Q1 and Q2 in SCImago. We recognise that articles may be published in other journals and not be included in our review, with a possible loss of further insights. Second, we have adopted Google Scholar citations to identify impact but recognise that citations in Google Scholar are a broad-brush approach, with some having a more significant impact than others. Nonetheless, we believe that Google Scholar provides a ‘democratic’ view of how much influence an article has on the research field (Bisogno *et al.*, 2018; Dumay *et al.*, 2018).

Recent research on PMM and NPFM indicates that various governments globally have implemented policies aligned with NPM and NPFM in public service delivery, such as privatisation, contracting out, selling public assets and reducing income taxes, leading to the proliferation of hybrid universities, which have to deal with the multiplicity of logics over

time (Grossi *et al.*, 2020a, b). This has impacted how diversity is administered from the central state and within a university context. Proponents of the change argue that these policies align with market principles to improve efficiency but fail to acknowledge how this has led to a shift in university culture towards accounting, economising and marketisation, prioritising skills over theoretical knowledge. As demonstrated, NPM has influenced the organisational structure of universities, with corporate practices and entities favoured over the public good purpose of universities in society. For illustration, in Australia, universities, which are often hybrid, have adopted a user-pays philosophy, market-driven pricing and cost minimisation. The Australian higher education system follows a centralised public policy, with public universities receiving funding from the federal government. The Minister of Education and Training regulates the number of universities and controls the number of students in each undergraduate course. Local students pay a higher education contribution fee, while universities can set fees for international students. International student fees play a crucial role in the funding strategy of Australian public universities, subsidising operations, teaching and research expenses. All these policies and practices are under the banner of transformational PMM. Like public universities in many countries, ultimately, these universities have been corporatised via extensive policy interventions since the 1980s, driven by neoliberal ideologies that emphasise free markets, competition, efficiency and reduced state intervention. Universities' identities have been redefined, losing their traditional values as supporters of inclusivity, social cohesion and social mobility, instead defining their success according to research output, innovative teaching approaches, world rankings, business partnerships and attracting fee-paying students.

The impact of these policy interventions was laid bare during the COVID-19 pandemic, which exposed their inherent risks to universities, as they experienced a drop in international student enrolments and funding challenges. Staffing was significantly affected, with limited government support (Guthrie *et al.*, 2022). This has prompted questions about the future strategies of university management. We highlight the vulnerability of universities to crises and emphasise the need to reimagine them as democratic and purposeful institutions (Martin-Sardesai and Guthrie, 2021). We call for re-evaluating the relationship between a university's mission, its stakeholders and those responsible for its administration and shifting the focus of PMM systems to one that emphasises the importance of public consultation and engagement in shaping the future of higher education.

Last but not least, the exasperated use of metrics in assessing research performance is undermining scholars' professional identity, threatening perceived autonomy and creating a sort of 'academic performer ideal' (Englund and Gerdin, 2020; Gerdin and Englund, 2022) in a game which involves in particular young researchers in identifying themes and journals highly ranked but still inaccessible. Also, researchers investigating in a specific field (e.g. public sector accounting scholars) may experience a contrast between the publication game and other duties, such as doing societally relevant work, performing high-quality teaching and serving specific audiences (Argento and van Helden, 2023). The publish-or-perish regime is driving towards an understanding of research as a mean of producing publications as items of countable performance (Becker and Lukka, 2023), with quantity prevailing on quality, thus undermining the quality of research and sound scholarship.

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